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THE

NATURAL HISTORY

OF

PLINY.

TRANSLATED,

WITH COPIOUS NOTES AND ILLUSTRATIONS

BY THE LATE

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NATURAL HISTORY OF PLINY.

BOOK VI.

AN ACCOUNT OF COUNTRIES, NATIONS, SEAS, TOWNS, HAVENS, MOUNTAINS, RIVERS, DISTANCES, AND PEOPLES WHO NOW EXIST, OR FORMERLY EXISTED.

CHAP. 1. (1.)—THE EUXINE AND THE MARYANDINI.

THE Euxine[1] Sea, which in former times had the name of Axenus,[2] from the savage and inhospitable character of the nations living on its borders, by a peculiar whim of nature, which is continually giving way before the greedy inroads of the sea, lies between Europe and Asia. It was not enough for the ocean to have surrounded the earth, and then deprived us of a considerable portion of it, thus rendering still greater its uninhabitable proportion; it was not enough for it to have forced a passage through the mountains, to have torn away Calpe from Africa, and to have swallowed up a much larger space than it left untouched; it was not enough for it to have poured its tide into the Propontis through the Hellespont, after swallowing up still more of the dry land —for beyond the Bosporus, as well, it opens with its insatiate appetite upon another space of immense extent, until the Mæotian lakes[3] unite their ravening waters with it as it ranges far and wide.

That all this has taken place in spite, as it were, of the earth, is manifested by the existence of so many straits and such numbers of narrow passages formed against the will of

[1] Or the "Hospitable" Sea, now the Black Sea.

[2] Or the "Inhospitable."

[3] The streams which discharge their waters into the Palus Mæotis, or Sea of Azof.

nature—that of the Hellespont,[4] being only eight hundred and seventy-five paces in width, while at the two Bospori[5] the passage across may be effected by oxen[6] swimming, a fact from which they have both derived their name. And then besides,[7] although they are thus severed, there are certain points on which these coasts stand in the relation of brotherhood towards each other—the singing of birds and the barking of dogs on the one side can be heard on the other, and an intercourse can be maintained between these two worlds by the medium even of the human voice,[8] if the winds should not happen to carry away the sound thereof.

The length of the borders of the Euxine from the Bosporus to the Lake Mæotis has been reckoned by some writers at fourteen hundred and thirty-eight miles; Eratosthenes, however, says that it is one hundred less. According to Agrippa, the distance from Chalcedon to the Phasis is one thousand miles, and from that river to the Cimmerian Bosporus three hundred and sixty. We will here give in a general form the distances as they have been ascertained in our own times; for our arms have even penetrated to the very mouth of the Cimmerian Straits.

After passing the mouth of the Bosporus we come to the river Rhebas,[9] by some writers called the Rhesus. We next come to Psillis,[10] the port of Calpas,[11] and the Sagaris,[12] a famous

[4] Straits of the Dardanelles or of Gallipoli, spoken of in B. iv. c. 18, as seven stadia in width.

[5] The Thracian Bosporus, now the Channel or Straits of Constantinople, and the Cimmerian Bosporus or Straits of Kaffa, or Yeni Kale.

[6] From βοῦς, an ox, and πορός, "a passage." According to the legend, it was at the Thracian Bosporus that the cow Io made her passage from one continent to the other, and hence the name, in all probability, celebrated alike in the fables and the history of antiquity. The Cimmerian Bosporus not improbably borrowed its name from the Thracian. See Æsch. Prom. Vinc. l. 733.

[7] This sentence seems to bear reference to the one that follows, and not, as punctuated in the Latin, to the one immediately preceding it.

[8] It is not probable that this is the case at the Straits of Kaffa, which are nearly four miles in width at the narrowest part.

[9] Now the Riva, a river of Bithynia, in Asia Minor, falling into the Euxine north-east of Chalcedon.

[10] Probably an obscure town.

[11] On the river Calpas or Calpe, in Bithynia. Xenophon, in the Anabasis, describes it as about half way between Byzantium and Heraclea. The spot is identified in some of the maps as Kirpeh Limán, and the promontory as Cape Kirpeh.

[12] Still known as the Sakaria.

river, which rises in Phrygia and receives the waters of other rivers of vast magnitude, among which are the Tembrogius[13] and the Gallus,[14] the last of which is by many called the Sangarius. After leaving the Sagaris the Gulf of the Mariandyni[15] begins, and we come to the town of Heraclea,[16] on the river Lycus;[17] this place is distant from the mouth of the Euxine two hundred miles. The sea-port of Acone[18] comes next, which has a fearful notoriety for its aconite or wolf's-bane, a deadly poison, and then the cavern of Acherusia,[19] the rivers Pædopides, Callichorus, and Sonautes, the town of Tium,[20] distant from Heraclea thirty-eight miles, and the river Billis.

CHAP. 2. (2.)—PAPHLAGONIA.

Beyond this river begins the nation of Paphlagonia,[21] by some writers called Pylæmenia;[22] it is closed in behind by the country of Galatia. In it are Mastya,[23] a town founded by the

[13] Now called the Sursak, according to Parisot.

[14] Now the Lef-ke. See the end of c. 42 of the last Book.

[15] The modern Gulf of Sakaria. Of the Mariandyni, who gave the ancient name to it, little or nothing is known.

[16] Its site is now known as Harakli or Eregli. By Strabo it is erroneously called a colony of Miletus. It was situate a few miles to the north of the river Lycus.

[17] Now called the Kilij.

[18] Stephanus Byzantinus speaks of this place as producing whetstones, or ἀκόναι, as well as the plant aconite.

[19] This name was given to the cavern in common with several other lakes or caverns in various parts of the world, which, like the various rivers of the name of Acheron, were at some time supposed to be connected with the lower world.

[20] Now called Falios (or more properly Filiyos), according to D'Anville, from the river of that name in its vicinity, supposed by him and other geographers to be the same as the ancient Billis. here mentioned by Pliny. By others of the ancient writers it is called Billæus.

[21] Paphlagonia was bounded by Bithynia on the west, and by Pontus on the east, being separated from the last by the river Halys; on the south it was divided by the chain of Mount Olympus from Phrygia in the earlier times, from Galatia at a later period; and on the north it bordered on the Euxine.

[22] In the Homeric catalogue we find Pylæmenes leading the Paphlagonians as allies of the Trojans; from this Pylæmenes the later princes of Paphlagonia claimed their descent, and the country was sometimes from them called Pylæmenia.

[23] Suspected by Hardouin to have been the same as the Moson or Moston mentioned by Ptolemy as in Galatia.

Milesians, and then Cromna,[24] at which spot Cornelius Nepos also places the Heneti,[25] from whom he would have us believe that the Veneti of Italy, who have a similar name, are descended. The city also of Sesamon, now called Amastris,[26] Mount Cytorus,[27] distant sixty-three miles from Tium, the towns of Cimolis[28] and Stephane,[29] and the river Parthenius.[30] The promontory of Carambis,[31] which extends a great distance into the sea, is distant from the mouth of the Euxine three hundred and twenty-five miles, or, according to some writers, three hundred and fifty, being the same distance from the Cimmerian Bosporus, or, as some persons think, only three hundred and twelve miles. There was formerly also a town of the same name, and another near it called Armene; we now find there the colony of Sinope,[32] distant from Mount Cytorus one hundred and sixty-four miles. We then come to the river Evarchus,[33]

[24] It is mentioned by Homer, Il. ii. 855, as situate on the coast of Paphlagonia.

[25] Strabo also, in B. xii., says that these people afterwards established themselves in Thrace, and that gradually moving to the west, they finally settled in the Italian Venetia, which from them took its name. But in his Fourth Book he says that the Veneti of Italy owe their origin to the Gallic Veneti, who came from the neighbourhood known as the modern Vannes.

[26] This city, ninety stadia east of the river Parthenius, occupied a peninsula, and on each side of the isthmus was a harbour. The original city, as here mentioned, seems to have had the name of Sesamus or Sesamum, and it is spoken of by that name in Homer, Il. ii. 853, in conjunction with Cytorus. The territory of Amastris was famous for its growth of the best box-wood, which grew on Mount Cytorus. The present Amasra or Hamasserah occupies its site.

[27] See the last Note.

[28] Otherwise called "Cinolis." There is a place called Kinla or Kinoglu in the maps, about half-way between Kerempeh and Sinope, which is the Kinuli of Abulfeda, and probably the Cirolis or Cimolis of the Greek geographers.

[29] The modern Estefan or Stefanos.

[30] Now known by the name of Bartin, a corruption of its ancient appellation.

[31] It still retains its ancient appellation in its name of Cape Kerempeh: of the ancient town nothing is known.

[32] Now called Sinope, or Sinoub. Some ruins of it are still to be seen. The modern town is but a poor place, and has probably greatly declined since the recent attack upon it by the Russian fleet. Diogenes, the Cynic philosopher, was a native of ancient Sinope.

[33] The boundary, according to Stephanus Byzantinus, also of the nations of Paphlagonia and Cappadocia. As Parisot remarks, this is an error,

and after that a people of the Cappadocians, the towns of Gaziura[34] and Gazelum,[35] the river Halys,[36] which runs from the foot of Mount Taurus through Cataonia and Cappadocia, the towns of Gangre[37] and Carusa,[38] the free town of Amisus,[39] distant from Sinope one hundred and thirty miles, and a gulf of the same name, of such vast extent[40] as to make Asia assume the form of a peninsula, the isthmus of which is only some two hundred[41] miles in breadth, or a little more, across to the gulf of Issus in Cilicia. In all this district there are, it is said, only three races that can rightly be termed Greeks, the Dorians, the Ionians, and the Æolians, all the rest being of barbarian origin.[42] To Amisus was joined the town of Eupatoria,[43] founded by Mithridates: after his defeat they were both included under the name of Pompeiopolis.

arising from the circumstance of a small tribe bearing the name of Cappadocians, having settled on its banks, between whom and the Paphlagonians it served as a limit.

[34] On the river Iris. It was the ancient residence of the kings of Pontus, but in Strabo's time it was deserted. It has been suggested that the modern Azurnis occupies its site.

[35] In the north-west of Pontus, in a fertile plain between the rivers Halys and Amisus. It is also called Gadilon by Strabo. D'Anville makes it the modern Aladgiam; while he calls Gaziura by the name of Guedes.

[36] Now called the Kisil Irmak, or Red River. It has been remarked that Pliny, in making this river to come down from Mount Taurus and flow at once from south to north, appears to confound the Halys with one of its tributaries, now known as the Izchel Irmak.

[37] Its site is now called Kiengareh, Kangreh, or Changeri. This was a town of Paphlagonia, to the south of Mount Olgasys, at a distance of thirty-five miles from Pompeiopolis.

[38] A commercial place to the south of Sinope. Its site is the modern Gherseh on the coast.

[39] Now called Eski Samsun; on the west side of the bay or gulf, anciently called Sinus Amisenus. According to Strabo, it was only 900 stadia from Sinope, or 112½ Roman miles. The walls of the ancient city are to be seen on a promontory about a mile and a half from the modern town.

[40] He means the numerous indentations which run southward into the coast, from the headland of Sinope to a distance of about one degree to the south.

[41] On examining the map, we shall find that the distance is at least 300 miles across to the gulf of Issus or Iskenderoon.

[42] Not speaking the Greek language.

[43] A part of it only was added to Eupatoria; and it was separated from the rest by a wall, and probably contained a different population from that

CHAP. 3. (3.)—CAPPADOCIA.

Cappadocia[44] has in the interior Archelais,[45] a colony founded by Claudius Cæsar, and past which the river Halys flows; also the towns of Comana,[46] watered by the Sarus, Neocæsarea,[47] by the Lycus,[48] and Amasia,[49] in the region of Gazacene, washed by the Iris. In Colopene it has Sebastia and Sebastopolis;[51] these are insignificant places, but still equal in importance to those just mentioned. In its remaining districts there is Melita,[52] founded by Semiramis, and not far from the Euphrates, Diocæsarea,[53] Tyana,[54] Castabala,[55] Magnopolis,[56]

of Amisus. This new quarter contained the residence of the king, Mithridates Eupator, who built Eupatoria.

[44] The boundaries of Cappadocia varied under the dominion of the Persians, after the Macedonian conquest, and as a Roman province under the emperors.

[45] Founded by Archelaüs, the last king of Cappadocia. In Hamilton's *Researches*, the site has been assumed to be the modern Ak-serai, but that place is not on the river Halys, as Leake supposes. It is, however, considered that Ak-serai agrees very well with the position of Archelais as laid down in the Itineraries, and that Pliny may have been misled in supposing that the stream on which it stood was the Halys.

[46] Also called by the name of Chryse, or "Golden," to distinguish it from another place of the same name in Pontus. It is generally supposed that the town of Al-Bostan, on the Sihoon or Sarus, is on or near the site of this Comana.

[47] Now called Niksar, according to D'Anville, though Hardouin says that it is Tocat. Parisot remarks, that this place belonged rather to Pontus than to Cappadocia.

[48] A small tributary of the Iris, or Yeshil-Irmak, mentioned in the next Chapter.

[49] Still called Amasia, or Amasiyeh, and situate on the river Iris, or Yeshil Ermak. It was at one time the residence of the princes of Pontus, and the birth-place of the geographer Strabo. The remains of antiquity here are very considerable, and extremely interesting.

[51] Both to the west of Neo-Cæsarea. According to Tavernier, as quoted by Hardouin, the modern name of Sebastia is Sivas.

[52] Which gave name to the district of Melitene, mentioned in c. 20 of the last Book.

[53] Near Nazianzus, in Cappadocia, the birth-place of Gregory Nazianzen. The traveller Ainsworth, on his road from Ak Serai to Kara Hissar, came to a place called Kaisar Koi, and he has remarked that by its name and position it might be identified with Diocæsarea. Some geographers, indeed, look upon Diocæsarea and Nazianzus as the same place.

[54] Its ruins are still to be seen at Kiz Hisar. It stood in the south of Cappadocia, at the northern foot of Mount Taurus. Tyana was the

Zela,[57] and at the foot of Mount Argæus[58] Mazaca, now called Cæsarea.[59] That part of Cappadocia which lies stretched out before the Greater Armenia is called Melitene, before Commagene Cataonia, before Phrygia Garsauritis, Sargarausene,[60] and Cammanene, before Galatia Morimene, where their territories are divided by the river Cappadox,[61] from which this people have taken their name; they were formerly known as the Leucosyri.[62] From Neocæsarea above mentioned, the lesser Armenia is separated by the river Lycus. In the interior also there is the famous river Ceraunus,[63] and on the coast beyond the town of Amisus, the town and river of Chadisia,[64] and the town of Lycastum,[65] after which the region of Themiscyra[66] begins.

native place of Apollonius, the supposed worker of miracles, whom the enemies of Christianity have not scrupled to place on a par with Jesus Christ.

[55] Some ruins, nineteen geographical miles from Ayas, are supposed to denote the site of ancient Castabala or Castabulum.

[56] This place was first called Eupatoria, but not the same which Mithridates united with a part of Amisus. D'Anville supposes that the modern town of Tchenikeb occupies its site.

[57] Or Ziela, now known as Zillah, not far south of Amasia. It was here that Julius Cæsar conquered Pharnaces, on the occasion on which he wrote his dispatch to Rome, "Veni, vidi, vici."

[58] Still known by the name of Ardgeh-Dagh.

[59] Its site is still called Kaisiriyeh. It was a city of the district Cilicia, in Cappadocia, at the base of the mountain Argæus. It was first called Mazaca, and after that, Eusebeia. There are considerable remains of the ancient city.

[60] Hardouin remarks, that the district of Sargarausene was not situate in front of Phrygia, but lay between Morimene and Colopenene, in the vicinity of Pontus.

[61] Now known as the Konax, a tributary of the Halys, rising in Mount Littarus, in the chain of Paryadres.

[62] Or "White Syrians." Strabo says that in his time both the Cappadocian peoples, those situate above the Taurus and those on the Euxine, were called Leucosyri, or *White* Syrians, as there were some Syrians who were black, and who dwelt to the east of the Amanus.

[63] It is doubtful whether this is the name of a river or a town. Notwithstanding its alleged celebrity, nothing is known of it.

[64] Hecatæus, as quoted by Stephanus Byzantinus, speaks of Chadisia as a city of the Leucosyri, or Cappadocians. Neither the river nor the town appears to have been identified.

[65] Probably on the river of that name, which has been identified with the Mers Imak, a river two or three miles east of the Acropolis of Amisus.

[66] The extensive plain on the coast of Pontus, extending east of the river Iris, beyond the Thermodon, and celebrated as the country of the

CHAP. 4.—THE REGION OF THEMISCYRA, AND THE NATIONS THEREIN.

The river Iris brings down to the sea the waters of the Lycus. In the interior is the city of Zĭela,[67] famous for the defeat of Triarius[68] and the victory of C. Cæsar.[69] Upon the coast there is the river Thermodon, which rises at the fortified placé called Phanarœa,[70] and flows past the foot of Mount Amazonius.[71] There was formerly a town of the same name as the river, and five others in all, Amazonium, Themiscyra, Sotira, Amasia, and Comana,[72] now only a Manteium. (4.) We find here the nations of the Genetæ,[74] the Chalybes,[75] the town of Cotyorum,[76] the nations of the Tibareni and the Mossyni, who make marks upon their bodies,[77] the people called Macro-

Amazons. At the mouth of the Thermodon was a city of the same name, which had been destroyed by the time of Augustus. It is doubtful whether the modern Thermeh occupies its site.

[67] The same place apparently as is mentioned in the last Chapter under the name of Zela.

[68] Valerius Triarius, one of the legates of Lucullus, in the war against Mithridates. Plutarch tells us that Lucullus was obliged to conceal Triarius from the fury of his troops.

[69] Over Pharnaces, the son of Mithridates.

[70] Now called the Thermea.

[71] Still called Mason-Dagh.

[72] He alludes to Comana, in Pontus, the site of which is now called Gumenek, near to which, on the Tocat-su, the modern name of the Iris, Hamilton found some remains of a Roman town, and part of a bridge apparently of Roman construction. The language of Pliny seems to imply that it had become in his day nothing beyond a *manteium* or seat of an oracle.

[74] Strabo speaks of a promontory called Genetes; and Stephanus Byzantinus mentions a river and port of the same name.

[75] Strabo places the Chaldei, who, he says, were originally called Chalybes, in that part of the country which lies above Pharnacia (the modern Kerasunt).

[76] Or Cotyora. According to Xenophon, this was a colony of Sinope, which furnished supplies for the Ten Thousand in their retreat. The place was on a bay called after the town. Hamilton, in his *Researches*, &c., Vol. i., is of opinion that Cotyorum may have stood on the site of Ordou, where some remains of an ancient port, cut out of the solid rock, are still visible. He remarks, however, that some writers suppose that Cotyora was the modern bay of Pershembah, which is more sheltered than Ordou. Cotyora was the place of embarkation of the Ten Thousand.

[77] Similar to what we call tatooing. Parisot suggests that these people

cephali,[78] the town of Cerasus,[79] the port of Chordule, the nations called the Bechires[80] and the Buzeri, the river Melas,[81] the people called the Macrones, and Sidene with its river Sidenus,[82] by which the town of Polemonium[83] is washed, at a distance from Amisus of one hundred and twenty miles. We next come to the rivers Iasonius[84] and Melanthius,[85] and, at a distance of eighty miles from Amisus, the town of Pharnacea,[86] the fortress and river of Tripolis;[87] the fortress and river of Philocalia, the fortress of Liviopolis, but not upon a river, and, at a distance of one hundred miles from Pharnacea, the free city of Trapezus,[88] shut in by a mountain of vast size. Beyond this town is the nation of the Armenochalybes[89] and the

may have been the ancestors of the Mongol tribes who still dwell in tents similar to those mentioned by Mela as used by the Mossyni.

[78] Or the "long-headed people."

[79] Its site is not improbably that of the modern Kheresoun, on the coast of Asia Minor, and west of Trebizond. Lucullus is said to have brought thence the first cherry-trees planted in Europe.

[80] It has been remarked, that Pliny's enumeration of names often rather confuses than helps, and that it is difficult to say where he intends to place the Bechires. We may perhaps infer from Mela that they were west of Trapezus and east of the Thermodon.

[81] Now the Kara Su, or Black River, still retaining its ancient appellation. It rises in Cappadocia, in the chain of Mount Argæus.

[82] Still called by the same name, according to Parisot, though sometimes it is called the river of Vatisa. More recent authorities, however, call it Poleman Chai.

[83] On the coast of Pontus, built by king Polemon, perhaps the Second, on the site of the older city of Side, at the mouth of the Sidenus.

[84] Probably near the promontory of Jasonium, 130 stadia to the north-east of Polemonium. It was believed to have received its name from Jason the Argonaut having landed there. It still bears the name of Jasoon, though more commonly called Bona or Vona.

[85] Sixty stadia, according to Arrian, from the town of Cotyora.

[86] Supposed to have stood on almost the same site as the modern Kheresoun or Kerasunda. It was built near, or, as some think, on the site of Cerasus.

[87] Still known by the name of Tireboli, on a river of the same name, the Tireboli Su.

[88] Now called Tarabosan, Trabezun, or Trebizond. This place was originally a colony of Sinope, after the loss of whose independence Trapezus belonged, first to Lesser Armenia, and afterwards to the kingdom of Pontus. In the middle ages it was the seat of the so-called empire of Trebizond. It is now the second commercial port of the Black Sea, ranking next after Odessa.

[89] The "Chalybes of Armenia." See p. 21.

Greater Armenia, at a distance of thirty miles. On the coast, before Trapezus, flows the river Pyxites, and beyond it is the nation of the Sanni[90] Heniochi. Next comes the river Absarus,[91] with a fortress of the same name at its mouth, distant from Trapezus one hundred and forty miles.

At the back of the mountains of this district is Iberia, while on the coast are the Heniochi, the Ampreutæ,[92] the Lazi, the rivers Acampsis,[93] Isis,[94] Mogrus, and Bathys,[95] the nations of the Colchi, the town of Matium,[96] the river Heracleum and the promontory of the same name,[97] and the Phasis,[98] the most celebrated river of Pontus. This river rises among the Moschi, and is navigable for the largest vessels a distance of thirty-eight miles and a half, and for small ones very much higher up; it is crossed by one hundred and twenty bridges. It formerly had many cities of note on its banks, the more famous of which were Tyndaris, Circæum, Cygnus, and Phasis[99] at its mouth. But the most celebrated of them all was Æa, fifteen miles[1] distant from the sea, where the Hippos and the Cyaneos,[2] rivers of vast size, flow into it from opposite directions. At the present day its only place of note is Surium, which

[90] Theodoret says that the Sanni, and the Lazi, subsequently mentioned, although subdued by the Roman arms, were never obedient to the Roman laws. The Heniochi were probably of Grecian origin, as they were said to have been descended from the charioteers of the Argonauts, who had been wrecked upon these coasts.

[91] Or Apsarus, or Absarum. Several geographers have placed the site of this town near the modern one known as Gonieh. Its name was connected with the myth of Medea and her brother Absyrtus. It is not improbable that the names Acampsis and Absarus have been given to the same river by different writers, and that they both apply to the modern Joruk.

[92] It is suggested by Hardouin that these are the same as the Zydretæ mentioned in the Periplus of Arrian, and by him placed between the Heniochi and the Lazi.

[93] See note 91.

[94] Supposed to be the same as the modern Tshorok.

[95] Or "Deep" River. This stream may possibly be identified by observing that Pliny places only one river between it and the Phasis.

[96] Probably the Madia of Ptolemy, who places it in the interior.

[97] At the present day called Eraklia, according to Parisot.

[98] Now called the Faz or Rhioni.

[99] Still called El Faz or Poti.

[1] This place was in reality thirty-seven miles and a half from the sea. It was said to have been the native place of the enchantresses Circe and Medea.

[2] The rivers Hippos and Cyaneos do not appear to have been identified.

derives its name from the river which flows at that spot into the Phasis, and up to which place the Phasis is navigable for large vessels, as we have already[3] mentioned. It receives also some other rivers, wonderful for their number and magnitude, and among them the Glaucus.[4] At the mouth of the Phasis, at a distance of seventy miles from Absarus, are some islands, which, however, have no name. After passing this, we come to another river, the Charieis,[5] and the nation of the Salæ, by the ancients called Phthirophagi,[6] as also Suani.[7] The river Chobus[8] flows from the Caucasus through the country of the Suani. The river Rhoas comes next, then the region of Ecrectice, the rivers Singames,[9] Tarsuras,[10] Astelephus,[11] Chrysorrhoas, the nation of the Absilæ, the castle of Sebastopolis,[12] one hundred miles distant from Phasis, the nation of the Sannigæ, the town of Cygnus,[13] and the river and town of Penius.[14] We then come to the tribes of the Heniochi,[15] who are distinguished by numerous names.

CHAP. 5. (5)—THE REGION OF COLICA, THE NATIONS OF THE ACHÆI, AND OTHER NATIONS IN THE SAME PARTS.

Below this lies the region of Pontus known as Colica,[16] in

[3] In the previous page.

[4] Now called the Tchorocsu.

[5] It is doubtful whether this is the same river as that mentioned by Strabo under the name of Chares. D'Anville says that its modern name is Enguri.

[6] Or "Feeders on Lice;" so called, according to Strabo, from the extreme filthiness of their habits.

[7] There is a nation in this vicinity still called by a similar name. Professor Pallas, who visited them, says that nothing can equal their dishonesty, rapacity, and voracity. Parisot suggests that they are probably the descendants of the Phthirophagi of Pliny.

[8] Now called the Khalira, according to D'Anville.

[9] Now called the Hati-Scari, according to D'Anville.

[10] Now the Okhum, according to D'Anville.

[11] Now the Mosti-Skari, according to D'Anville.

[12] Still called Savastopoli, according to Hardouin.

[13] This must not be confounded with the other place of the same name mentioned in the present Chapter. See p. 10.

[14] Hermolaüs suggests Pityus as the correct reading.

[15] The Sanni Heniochi; one of these nations has been already mentioned in the last page.

[16] Inhabited anciently by the Coli, and constituting the northern portion of ancient Colchis.

which the mountain chain of Caucasus bends away towards the Riphæan mountains, as we have previously[17] mentioned; one side running down towards the Euxine and the Lake Mæotis, the other towards the Caspian and the Hyrcanian sea. The remaining portion of these shores is peopled by savage nations, the Melanchlæni,[18] and the Coraxi, who formerly dwelt in Dioscurias,[19] near the river Anthemus, now deserted, but once a famous city; so much so, indeed, that we learn from Timosthenes, that three hundred nations, all of different languages, were in the habit of resorting to it, and in later times we had there one hundred and thirty interpreters for the purpose of transacting business. There are some authors who are of opinion that this place was built by Amphitus and Telchius, the charioteers[20] of Castor and Pollux, from whom it is generally understood that the nation of the Heniochi sprang. After passing Dioscurias we come to the town of Heracleium,[21] seventy miles distant from Sebastopolis, and then the Achæi,[22] the Mardi,[23] and the Cercetæ,[24] and, behind them, the Cerri and the Cephalotomi.[25] In the innermost part[26] of this district there was Pityus,[27] a city of very considerable opulence, but

[17] In B. v. c. 27.

[18] Or nation "with the black cloaks," from some peculiarity in their dress.

[19] This was the great trading-place of the wild tribes in the interior; and so numerous were they, that the Greeks asserted that there were seventy different languages spoken in the market of Dioscurias.

[20] Whence the appellation *Heniochi*, from the Greek ἡνιοχὸς.

[21] There were two places called Heracleium on this coast, one north and the other south of the river Achæus: probably the latter is here meant.

[22] Said to have been descended from the Achæans or Greeks who accompanied Jason in the Argonautic Expedition, or, according to Ammianus, who resorted thither after the conclusion of the Trojan war.

[23] Probably meaning the "martial people," or the "people of Mars." This was the title, not of a single nation, but of a number of peoples distinguished for their predatory habits.

[24] This people occupied the N.E. shore of the Euxine, between the Cimmerian Bosporus and the frontier of Colchis. Their name is still in existence, and is applied to the whole western district of the Caucasus, in the forms of Tcherkas, as applied to the people, and Tcherkeskaia or Circassia, to the country.

[25] Hardouin suggests that these ought to be read as forming one name, the "Cerri Cephalatomi," and suggests that they were so called from their habit of cutting off the heads of their slain enemies.

[26] Meaning, nearly in the extreme corner of Pontus.

[27] In the time of Strabo this was a considerable sea-port, and after its

destroyed by the Heniochi: behind it are the Epageritæ, a people of Sarmatian origin, dwelling upon the range of the Caucasus, and beyond them, the Sauromatæ. It was with these people that Mithridates[28] took refuge in the reign of the Emperor Claudius: and from him we learn that the Thalli[29] join up to them, a people who border on the eastern side upon the mouth[30] of the Caspian sea: he tells us also that at the reflux the channel is dry there. Upon the coast of the Euxine, near the country of the Cercetæ, is the river Icarusa,[31] with the town and river of Hierus, distant from Heracleium one hundred and thirty-six miles. Next to this, is the promontory of Cruni, after passing which, we find the Toretæ upon a lofty ridge of mountains. The city of Sindos[32] is distant from Hierus sixty-seven miles and a half; after passing which, we come to the river Setheries. (6.) From thence to the entrance of the Cimmerian Bosporus the distance is eighty-eight miles and a half.

CHAP. 6.—THE CIMMERIAN BOSPORUS.

The length of the peninsula[33] which projects between the

destruction by the Heniochi, it was restored, and served as an important frontier fortress of the Roman empire against the Scythians.

[28] This was Mithridates, king of Bosporus, which sovereignty he obtained by the favour of the emperor Claudius, in A.D. 41. The circumstances are unknown which led to his subsequent expulsion by the Romans, who placed his younger brother Cotys on the throne in his stead.

[29] Hardouin thinks that the Thalli inhabited the present country of Astrakan.

[30] It was the ancient opinion, to which we shall find frequent reference made in the present Book, that the northern portion of the Caspian communicated with the Scythian or Septentrional ocean.

[31] Mentioned only by Pliny. It is supposed to answer to the present Ukrash river; and the town and river of Hierus are probably identical with the Hieros Portus of Arrian, which has been identified with the modern Sunjuk-Kala.

[32] Inhabited by the Sindi, a people of Asiatic Sarmatia. They probably dwelt in and about the modern peninsula of Taman, between the Sea of Azof and the Black Sea, to the south of the river Hypanis, the modern Kouban. The site of their capital, Sindos, or Sinda, is supposed to have been the modern Anapa. Parisot conjectures that this place was one of the ancient settlements of the Zigeunes, the modern Bohemians or Gypsies. He seems to found his opinion upon some observations of Malte Brun (*Précis de Geographie*, vol. vi.) upon the origin of the Gypsy race, which will amply repay the perusal.

[33] The peninsula on which Taman or Timoutarakan is situate.

Euxine and Lake Mæotis, is not more than sixty-seven miles and a half, and the width across never less than two jugera:[34] it has the name of Eion.[35] The shores of the Bosporus then take a curve both on the side of Europe and of Asia, thus forming the Mæotis. The towns at the entrance of the Bosporus are, first Hermonassa,[36] next Cepi,[37] founded by the Milesians, and then Stratoclia and Phanagoria,[38] and the almost deserted town of Apaturos,[39] and, at the extremity of the mouth, Cimmerium,[40] which was formerly called Cerberion. (7.) We then come to Lake Mæotis, which has been already mentioned[41] in the description of Europe.

CHAP. 7.—LAKE MÆOTIS AND THE ADJOINING NATIONS.

After passing Cimmerium, the coast[42] is inhabited by the Mæotici, the Vali, the Serbi,[43] the Arrechi, the Zingi, and the Psessi. We then come to the river Tanais,[44] which discharges

[34] The *jugerum* was 100 Grecian or 104 Roman feet in length.

[35] Signifying in Greek the "sea-shore."

[36] Lying between Singa and Phanagoria. Rennell fixes it at the opening of the lake into which the Kouban flows.

[37] Or the "gardens," from the Greek κῆποι. A town of the Cimmerian Bosporus, founded by the Milesians. Dr. Clarke identifies the modern Sienna with it, and the curious Milesian sculptures found there confirm the supposition.

[38] Its ruins are supposed to be those near Taman, on the eastern side of the Straits of Kaffa. It was the great emporium for all the traffic between the coasts of the Palus Mæotis and the countries on the south of the Caucasus, and was chosen by the kings of Bosporus as their capital in Asia.

[39] A town of the Sindæ; it possessed, like Phanagoria, a celebrated temple of Aphrodite Apaturos, or Venus "the Deceiver," whence probably its name.

[40] Clarke identifies it with the modern Temruk, but Forbiger with Eskikrimm.

[41] See B. iv. c. 24.

[42] That lying on the east of the Sea of Azof. It seems impossible to identify the spot inhabited by each of these savage tribes. Hardouin says that the modern name of that inhabited by the Mæotici is Coumania.

[43] Parisot suggests that this tribe afterwards emigrated to the west, and after establishing themselves in Macedonia, finally gave its name to modern Servia. He remarks, that most of these names appear to have been greatly mutilated, through the ignorance or carelessness of the transcribers, no two of the manuscripts agreeing as to the mode in which they should be spelt.

[44] Or Don. It flows into the Sea of Azof by two larger mouths and

itself into the sea by two mouths, and the banks of which are inhabited by the Sarmatæ, the descendants of the Medi, it is said, a people divided into numerous tribes. The first of these are the Sauromatæ Gynæcocratumeni,[45] the husbands of the Amazons. Next to them are the Ævazæ,[46] the Coitæ,[47] the Cicimeni, the Messeniani, the Costobocci, the Choatræ, the Zigæ,[48] the Dandarii, the Thyssagetæ, and the Iyrcæ,[49] as far as certain rugged deserts and densely wooded vallies, beyond which again are the Arimphæi,[50] who extend as far as the Riphæan Mountains.[51] The Scythians call the river Tanais by the name of Silis, and the Mæotis the Temarunda, meaning the "mother of the sea." There is[52] a city also at the mouth of the Ta-

several smaller ones. Strabo says that the distance between the two larger mouths is sixty stadia.

[45] From the Greek γυναικοκρατουμενοὶ, "ruled over by women." It is not improbable that this name was given by some geographer to these Sarmatian tribes on finding them, at the period of his visit, in subjection to the rule of a queen. Parisot remarks, that this passage affords an instance of the little care bestowed by Pliny upon procuring the best and most correct information, for that the Roman writers had long repudiated the use of the term "Sauromatæ." He also takes Pliny to task for his allusion to these tribes as coupling with the Amazons, the existence of such a people being in his time generally disbelieved.

[46] Hardouin suggests from εὐάζω, "to celebrate the orgies of Bacchus."

[47] Perhaps from κοίτη, a "den" or "cavern," their habitation.

[48] Parisot suggests that they may have been a Caucasian or Circassian tribe, because in the Circassian language the word *zig* has the meaning of "man." He also suggests that they were probably a distinct race from the Zingi previously mentioned, whom he identifies with the ancestors of the Zingari or Bohemians, the modern Gypsies.

[49] The more common reading is "Turcæ," a tribe also mentioned by Mela, and which gave name to modern Turkistan.

[50] The Argippæi of Herodotus and other ancient authors. These people were bald, flat-nosed, and long-chinned. They are again mentioned by Pliny in C. 14, who calls them a race not unlike the Hyperborei, and then, like Mela, abridges the description given by Herodotus. By different writers these people have been identified with the Chinese, the Brahmins or Lamas, and the Calmucks. The last is thought to be the most probable opinion, or else that the description of Herodotus, borrowed by other writers, may be applied to the Mongols in general. The mountains, at the foot of which they have been placed, are identified with either the Ural, the western extremity of the Altaï chain, or the eastern part of the Altaï.

[51] Generally regarded as the western branch of the Ural Mountains.

[52] The former editions mostly have "there *was*," implying that in the time of Pliny it no longer existed. The name of this place was Tanais; its ruins are still to be seen in the vicinity of Kassatchei. It was founded

nais. The neighbouring country was inhabited first by the Carians, then by the Clazomenii and Mæones, and after them by the Panticapenses.[53]

There are some writers who state that there are the following nations dwelling around the Mæotis, as far as the Ceraunian mountains;[54] at a short distance from the shore, the Napitæ, and beyond them, the Essedones, who join up to the Colchians, and dwell upon the summits of the mountains: after these again, the Camacæ, the Orani, the Autacæ, the Mazacasi, the Cantiocæ, the Agamathæ, the Pici, the Rimosoli, the Acascomarci, and, upon the ridges of the Caucasus, the Itacalæ, the Imadochi, the Rami, the Anclacæ, the Tydii, the Carastasei, and the Anthiandæ. The river Lagoüs runs from the Cathæan[55] mountains, and into it flows the Opharus. Upon it are the tribes of the Cauthadæ, and the Opharitæ. Next to these are the rivers Menotharus and Imityes, which flow from the Cissian mountains, among the peoples called the Acdei, the Carnæ, the Oscardei, the Accisi, the Gabri, the Gogari, and, around the source of the Imityes, the Imityi, and the Apatræi. Some writers say that the Auchetæ, the Athernei, and the Asampatæ, Scythian tribes, have made inroads upon this territory, and have destroyed the Tanaitæ and the Inapæi to a man. Others again represent the Ocharius as running through the Cantici and the Sapæi, and the Tanais as passing through the territories of the Sarcharcei, the Herticei, the Spondolici, the Synhietæ, the Anasi, the Issi, the Catetæ, the Tagoræ, the Caroni, the Neripi, the Agandei, the Mandarei, the Satarchei, and the Spalei.

CHAP. 8. (8.)—THE SITUATION OF CAPPADOCIA.

We have now gone over the coast which borders upon the

by a colony from Miletus, and became a flourishing seat of trade. The modern town of Azof is supposed to occupy nearly its site.

[53] The people of Panticapæum, on the opposite side of the Palus Mæotis, occupying the site of the present Kertch. It was founded by the Milesians B.C. 541, and took its name from the neighbouring river Panticapes.

[54] The Ceraunian mountains were a range belonging to the Caucasian chain, and situate at its eastern extremity; the relation of this range to the chain has been variously stated by the different writers.

[55] He may possibly allude to a range of mountains in the Punjaub and the vicinity of the modern Lahore, by his reference to the Cathæi, who are supposed to have been the ancient inhabitants of that district. The localities of the various races here mentioned are involved in great obscurity.

Inner[55] Sea, and have enumerated the various nations that dwell thereon; let us now turn to those vast tracts of land which lie further in the interior. I do not deny that in my description I shall differ very materially from the ancient writers, but still it is one that has been compiled with the most anxious research, from a full examination into the events which have transpired of late in these countries under the command of Domitius Corbulo,[56] and from information received either from kings who have been sent thence to Rome, as suppliants for our mercy, or else the sons of kings who have visited us in the character of hostages.

We will begin then with the nation of the Cappadocians.

Of all the countries of Pontus, this[57] extends the greatest distance into the interior.[58] On the left[59] it leaves behind the Lesser and the Greater Armenia, as well as Commagene, and on the right all the nations of the province of Asia which we have previously described. Spreading over numerous peoples, it rises rapidly in elevation in an easterly direction towards the range of Taurus. Then passing Lycaonia, Pisidia, and Cilicia, it advances above the district of Antiochia, the portion of it known as Cataonia extending as far as Cyrrhestica, which forms part of that district. The length of Asia[60] here is twelve hundred and fifty miles, its breadth six hundred and forty.[61]

CHAP. 9. (9.)—THE LESSER AND THE GREATER ARMENIA.

Greater Armenia,[62] beginning at the mountains known as the

[55] Or Mediterranean.

[56] See Vol. i. p. 497.

[57] He includes under the term "Cappadocia," the northern part originally called "Cappadocia ad Pontum," and in later times simply Pontus, and the southern part, originally called "Cappadocia ad Taurum," and more recently simply Cappadocia.

[58] Running from the shores of the Euxine to the borders of Syria.

[59] *I. e.* on the eastern side.

[60] Meaning that part of Asia which we now call Asia Minor.

[61] This ill agrees with what he has said in c. 2, that the distance across from Sinope to the Gulf of Issus is but 200 miles.

[62] Greater Armenia, now known as Erzeroum, Kars, Van, and Erivan, was bounded on the north-east and north by the river Cyrus, or Kur of the present day; on the north-west and west by the Moschian mountains, the prolongation of the chain of the Anti-Taurus, and the Euphrates, or

Paryadres,[63] is separated, as we have already stated,[64] from Cappadocia by the river Euphrates, and, where that river turns off[65] in its course, from Mesopotamia, by the no less famous river Tigris. Both of these rivers take their rise in Armenia, which also forms the commencement of Mesopotamia, a tract of country which lies between these streams; the intervening space between them being occupied by the Arabian Orei.[66] It thus extends its frontier as far as Adiabene, at which point it is stopped short by a chain of mountains which takes a cross direction; whereupon the province extends in width to the left, crossing the course of the Araxes,[67] as far as the river Cyrus;[68] while in length it reaches as far as the Lesser Armenia,[69] from which it is separated by the river Absarus, which flows into the Euxine, and by the mountains known as the Paryadres, in which the Absarus takes its rise.

CHAP. 10.—THE RIVERS CYRUS AND ARAXES.

The river Cyrus[70] takes its rise in the mountains of the Heniochi, by some writers called the Coraxici; the Araxes rises in the same mountains as the river Euphrates, at a distance from it of six miles only;[71] and after being increased by the waters

Frat of the present day; and on the south and south-east by the mountains called Masius, Niphates, and Gordiæi (the prolongation of the Taurus), and the lower course of the Araxes. On the east the country comes to a point at the confluence of the Syrus and Araxes.

[63] Now known as the Kara-bel-Dagh, or Kut-Tagh, a mountain chain running south-west and north-east from the east of Asia Minor into the centre of Armenia, and forming the chief connecting link between the Taurus and the mountains of Armenia.

[64] In B. v. c. 20.

[65] He means, where the river Euphrates runs the farthest to the west.

[66] Littré suggests that the reading should be "Aroei."

[67] The modern Eraskh or Aras.

[68] The modern Kur.

[69] This district was bounded on the east by the Euphrates, on the north and north-west by the mountains Scodises, Paryadres, and Anti-Taurus, and on the south by the Taurus.

[70] This river is said by Ammianus to have taken *its* name from Cyrus. It appears, however, to have been a not uncommon name of the rivers of Persia.

[71] It is probable that these rivers take their rise near each other, but it is not improbable that the intervening distance mentioned in the present passage is much too small.

of the Usis, falls itself, as many authors have supposed, into the Cyrus, by which it is carried into the Caspian Sea.

The more famous towns in Lesser Armenia are Cæsarea,[72] Aza,[73] and Nicopolis;[74] in the Greater Arsamosata,[75] which lies near the Euphrates, Carcathiocerta[76] upon the Tigris, Tigranocerta[77] which stands on an elevated site, and, on a plain adjoining the river Araxes, Artaxata.[78] According to Aufidius, the circumference of the whole of Armenia is five thousand miles, while Claudius Cæsar makes the length, from Dascusa[79] to the borders of the Caspian Sea, thirteen[80] hundred miles, and the breadth, from Tigranocerta to Iberia,[81] half that distance. It is a well-known fact, that this country is divided into prefectures, called "Strategies," some of which singly formed a kingdom in former times; they are one hundred

[72] Hardouin thinks that this is Neo-Cæsarea, mentioned as having been built on the banks of the Euphrates.

[73] Now called Ezaz, according to D'Anville. Parisot suggests that it ought to be Gaza or Gazaca, probably a colony of Median Gaza, now Tauris.

[74] Originally called Tephrice. It stood on the river Lycus, and not far from the sources of the Halys, having been founded by Pompey, where he gained his first victory over Mithridates, whence its name, the "City of Victory." - The modern Enderez or Devrigni, probably marks its site.

[75] Ritter places it in Sophene, the modern Kharpat, and considers that it may be represented by the modern Sert, the Tigranocerta of D'Anville.

[76] The capital of Sophene, one of the districts of Armenia. St. Martin thinks that this was the ancient heathen name of the city of Martyropolis, but Ritter shows that such cannot be the case. It was called by the Syrians Kortbest; its present name is Kharput.

[77] Generally supposed, by D'Anville and other modern geographers, to be represented by the ruins seen at Sert. It was the later capital of Armenia, built by Tigranes.

[78] The ancient capital of Armenia. Hannibal, who took refuge at the court of Artaxias when Antiochus was no longer able to afford him protection, superintended the building of it. Some ruins, called Takt Tiridate, or Throne of Tiridates, near the junction of the Aras and the Zengue, were formerly supposed to represent Artaxata, but Colonel Monteith has fixed the site at a bend in the river lower down, at the bottom of which were the ruins of a bridge of Greek or Roman architecture.

[79] A fortress in Lesser Armenia, upon the Euphrates, seventy-five miles from Zimara, as mentioned in B. v. c. 20. It has been identified with the modern ferry and lead mines of Kebban Ma'den, the points where the Kara Su is joined by the Murad Chaï, 270 miles from its source.

[80] Justin makes it only 1100, and that estimate appears to be several hundreds too much.

[81] A country lying to the north of Armenia.

and twenty in number, with barbarous and uncouth names.[82] On the east, it is bounded, though not immediately, by the Ceraunian Mountains and the district of Adiabene. The space that intervenes is occupied by the Sopheni, beyond whom is the chain of mountains,[83] and then beyond them the inhabitants of Adiabene. Dwelling in the valleys adjoining to Armenia are the Menobardi and the Moscheni. The Tigris and inaccessible mountains surround Adiabene. To the left[84] of it is the territory of the Medi, and in the distance is seen the Caspian Sea; which, as we shall state in the proper place, receives its waters from the ocean,[85] and is wholly surrounded by the Caucasian Mountains. The inhabitants upon the confines of Armenia shall now be treated of.

CHAP. 11. (10.)—ALBANIA, IBERIA, AND THE ADJOINING NATIONS.

The whole plain which extends away from the river Cyrus is inhabited by the nation of the Albani,[86] and, after them,[87] by that of the Iberi,[88] who are separated from them by the river Alazon,[89] which flows into the Cyrus from the Caucasian

[82] We find in Strabo the names of some of them mentioned, such as Sophene, Acilisene, Gorgodylene, Sacassene, Gorgarene, Phanene, Comisene, Orchestene, Chorsene, Cambysene, Odomantis, &c.

[83] The Ceraunian Mountains. Parisot remarks that in this description, Pliny, notwithstanding his previous professions, does not appear to have made any very great use of the list drawn up by Corbulo.

[84] That is, looking towards the south.

[85] The Septentrional Ocean, with which the ancients imagined that the northern part of the Caspian Sea is connected. See c. 15.

[86] According to Strabo, Albania was bounded on the east by the Caspian, and on the north by the Caucasus. On the west it joined Iberia, while on the south it was divided from the Greater Armenia by the river Cyrus. By later writers, the northern and western boundaries are differently given. It was found to be the fact that the Albani occupied the country on both sides of the Caucasus, and accordingly Pliny, in c. 15, carries the country further north, as far as the river Casius, while in this Chapter he makes the river Alazon, the modern Alasan, the western boundary towards Iberia.

[87] To the west of Albania.

[88] Iberia lay south of the great chain of the Caucasus, forming an extensive tract bounded on the west by Colchis, on the east by Albania, and on the south by Armenia, and watered by the river Cyrus. It corresponded very nearly with modern Georgia.

[89] The modern Alasan.

chain. The chief cities are Cabalaca,[90] in Albania, Harmastis,[91] near a river[92] of Iberia, and Neoris; there is the region also of Thasie, and that of Triare, extending as far as the mountains known as the Paryadres. Beyond these[93] are the deserts of Colchios, on the side of which that looks towards the Ceraunian Mountains dwell the Armenochalybes;[94] and there is the country of the Moschi, extending to the river Iberus, which flows into the Cyrus; below them are the Sacassani, and after them the Macrones, upon the river Absarus. Such is the manner in which the plains and low country are parcelled out. Again, after passing the confines of Albania, the wild tribes of the Silvi inhabit the face of the mountains, below them those of the Lubieni, and after them the Diduri and the Sodii.

CHAP. 12. (11.)—THE PASSES OF THE CAUCASUS.

After passing the last, we come to the Gates of Caucasus,[95] by many persons most erroneously called the Caspian Passes; a vast work of nature, which has suddenly wrenched asunder in this place a chain of mountains. At this spot are gates barred up with beams shod with iron, while beneath the middle there runs a stream which emits a most fetid odour; on this side of it is a rock, defended by a fortress, the name of which is Cumania,[96] erected for the purpose of preventing the passage of the innumerable tribes that lie beyond. Here, then, we may see the habitable world severed into two parts by a pair

[90] Now called Kablas-Var, according to Parisot.

[91] Parisot says that this can be no other than Harmoza on the river Cyrus, in the vicinity of the modern Akhalzik.

[92] Probably meaning "of the same name."

[93] To the west.

[94] "The Armenian workers in iron," or "Chalybes of Armenia." See p. 9.

[95] There are two chief passes over the chain of the Caucasus, both of which were known to the ancients. The first is between the eastern extremity of its chief north-eastern spur and the Caspian sea, near the modern Derbend. This was called "Albaniæ," and sometimes, "Caspiæ Pylæ," the "Albanian" or "Caspian Gates." The other, which was nearly in the centre of the Caspian range, was called "Caucasiæ" or "Sarmaticæ Pylæ," being the same as the modern pass of Dariyel, and probably the one here referred to.

[96] Probably the same as the present fortress of Dariyel.

of gates; they are just opposite to Harmastis, a town of the Iberi.

Beyond the Gates of Caucasus, in the Gordyæan Mountains, the Valli and the Suani, uncivilized tribes, are found; still, however, they work the mines of gold there. Beyond these nations, and extending as far away as Pontus, are numerous nations of the Heniochi, and, after them, of the Achæi. Such is the present state of one of the most famous tracts upon the face of the earth.

Some writers have stated that the distance between the Euxine and the Caspian Sea is not more than three hundred and seventy-five miles; Cornelius Nepos makes it only two hundred and fifty. Within such straits is Asia pent up in this second instance[97] by the agency of the sea! Claudius Cæsar has informed us that from the Cimmerian Bosporus to the Caspian Sea is a distance of only one hundred and fifty[98] miles, and that Nicator Seleucus[99] contemplated cutting through this isthmus just at the time when he was slain by Ptolemy Ceraunus. It is a well-known fact that the distance from the Gates of Caucasus to the shores of the Euxine is two hundred miles.

CHAP. 13. (12.)—THE ISLANDS OF THE EUXINE.

The islands of the Euxine are the Planctæ or Cyaneæ,[1] otherwise called Symplegades, and Apollonia, surnamed Thynias,[2] to distinguish it from the island of that name[3] in Europe; it is four miles in circumference, and one mile distant from the mainland. Opposite to Pharnacea[4] is Chalceritis, to which the Greeks have given the name of Aria,[5]

[97] The first instance was that of the narrow isthmus to which the continent of Asia is reduced from Sinope across to the Gulf of Issus, as mentioned in c. 2.

[98] The shortest distance across, in a straight line, is in reality little less than 600 miles.

[99] The ancestor of the Seleucidæ, kings of Syria, treacherously slain by Ptolemy Ceraunus, brother of Ptolemy Philadelphus.

[1] Already mentioned in B. iv. c. 27.

[2] Mentioned in c. 44 of the last Book.

[3] The one lying at the mouth of the Danube, and mentioned in B. iv. c. 27.

[4] Mentioned in c. 4 of the present Book. See p. 9.

[5] Or "Mars' Island," also called Aretias; at this island, in the south of

and consecrated it to Mars; here, they say, there were birds that used to attack strangers with blows of their wings.

CHAP. 14. (13.)—NATIONS IN THE VICINITY OF THE SCYTHIAN OCEAN.

Having now stated all that bears reference to the interior of Asia, let us cross in imagination the Riphæan[6] Mountains, and traverse the shores of the ocean to the right. On three sides does this ocean wash the coasts of Asia, as the Scythian Ocean on the north, the Eastern Ocean on the east, and the Indian Ocean on the south; and it is again divided into various names, derived from the numerous gulfs which it forms, and the nations which dwell upon its shores. A great part of Asia, however, which lies exposed to the north, through the noxious effects of those freezing climates, consists of nothing but vast deserts. From the extreme north north-east to the point[7] where the sun rises in the summer, it is the country of the Scythians. Still further than them, and beyond[8] the point where north north-east begins, some writers have placed the Hyperborei, who are said, indeed, by the majority to be a people of Europe.[9] After passing this point,[10]

the Euxine, the two queens of the Amazons, Otrere and Antiope, built a temple in honour of Ares or Mars. It is thought to be the rocky islet called by the Turks Kerasunt Ada, between three and four miles from Kerasunt, the ancient Pharnacea.

[6] It is difficult to say what chain of mountains, if indeed *any* in particular, he would designate by this name. Parisot remarks that these mountains would seem to belong rather to the region of poetry and fable than of fact, and states that it is pretty clear that the Balkan chain, the districts in which the Danube takes its rise, the Alps, the Pyrenees, the Hercynian mountains, and even the chain of Taurus and Caucasus, have at different times been described or mentioned under the name of Riphæan Mountains. It was evidently Pliny's belief that the great Northern or Scythian Ocean skirted the northern shores of Asia, a little above the latitude perhaps of the northern extremity of the Caspian. In B. iv. c. 26, we find him crossing these, perhaps imaginary, mountains, and then proceeding to the left, along, as he supposes, the extreme northern shores of Europe; here he seems to start from the same point, but turns to the right, and proceeds along the northern, eastern, and southern shores of Asia.

[7] North-east.

[8] *I. e.* more to the west.

[9] See B. iv. c. 26.

[10] The extremity of the supposed shores of the Hyperborei.

the first place that is known is Lytarmis,[11] a promontory of Celtica, and next to it the river Carambucis,[12] where the chain of the Riphæan Mountains terminates, and with it the extreme rigour of the climate; here, too, we have heard of a certain people being situate, called the Arimphæi,[13] a race not much unlike the Hyperborei.[14] Their habitations are the groves, and the berries their diet; long hair is held to be disgraceful by the women as well as the men, and they are mild in their manners. Hence it is that they are reported to be a sacred[15] race, and are never molested even by the savage tribes which border upon them, and not only they, but such other persons as well as may have fled to them for refuge. Beyond these we come straight to the Scythians, the Cimmerii, the Cisianthi, the Georgi, and a nation of Amazons.[16] These last extend to the Caspian and Hyrcanian Sea.[17]

CHAP. 15.—THE CASPIAN AND HYRCANIAN SEA.

Bursting through, this sea makes a passage from the Scythian Ocean into the back of Asia,[18] receiving various names from the

[11] D'Anville supposes that he means the headland called Cande-Noss or Kanin-Noss, in the White Sea. Parisot, who thinks that Pliny had no idea of the regions which lie in those high latitudes, supposes that he refers to Domnes-Ness in the Baltic, and that by the Carambucis he means the river Niemen.

[12] Ansart thinks that he means the Dwina, which falls into the Gulf of Archangel.

[13] Previously mentioned in c. 7.

[14] For a full description of them, see B. iv. c. 26.

[15] See the Note to c. 7, p. 15. This description is borrowed from that given by Herodotus. Their sacred character has been explained as referring to the class or caste of priests among this Eastern people, whoever they may have been.

[16] Ansart thinks that the Cicianthi, the Georgi, and the Amazons, inhabited the modern governments of Archangel and Vologda. It seems almost akin to rashness to hazard a conjecture.

[17] It has been already stated that the Caspian Sea was, in one portion of it, so called, and in another the Hyrcanian Sea.

[18] His meaning is, that the Scythian ocean communicates on the northern shores of Asia with the Caspian Sea. Hardouin remarks, that Patrocles, the commander of the Macedonian fleet, was the first to promulgate this notion, he having taken the mouth of the river Volga for a narrow passage, by means of which the Scythian or Northern Ocean made its way into the Caspian Sea.

nations which dwell upon its banks, the two most famous of which are the Caspian and the Hyrcanian races. Clitarchus is of opinion that the Caspian Sea is not less in area than the Euxine. Eratosthenes gives the measure of it on the south-east, along the coast of Cadusia[19] and Albania, as five thousand four hundred stadia; thence, through the territories of the Anariaci, the Amardi, and the Hyrcani, to the mouth of the river Zonus he makes four thousand eight hundred stadia, and thence to the mouth of the Jaxartes[20] two thousand four hundred; which makes in all a distance of one thousand five hundred and seventy-five miles. Artemidorus, however, makes this sum smaller by twenty-five miles. Agrippa bounds the Caspian Sea and the nations around it, including Armenia, on the east by the Ocean of the Seres,[21] on the west by the chain of the Caucasus, on the south by that of Taurus, and on the north by the Scythian Ocean; and he states it, so far as its extent is known, to be four hundred and eighty miles in length, and two hundred and ninety in breadth. There are not wanting, however, some authors who state that its whole circumference, from the Straits,[22] is two thousand five hundred miles.

Its waters make their way into this sea by a very narrow mouth,[23] but of considerable length; and where it begins to enlarge, it curves obliquely with horns in the form of a crescent, just as though it would make a descent from its mouth into Lake Mæotis, resembling a sickle in shape, as M. Varro says. The first[24] of its gulfs is called the Scythian Gulf; it is inhabited on both sides, by the Scythians, who hold communication with each other across the Straits,[25] the Nomades being on one side, together with the Sauromatæ, divided into

[19] The country of the Cadusii, in the mountainous district of Media Atropatene, on the south-west shores of the Caspian Sea, between the parallels of 390 and 370 north latitude. This district probably corresponds with the modern district of Gilan.

[20] Now the Syr-Daria or Yellow River, and watering the barren steppes of the Kirghiz-Cossacks. It really discharges itself into the Sea of Aral, and not the Caspian.

[21] The supposed Eastern Ocean of the ancients.

[22] The imaginary passage by which it was supposed to communicate with the Scythian Ocean.

[23] This being in reality the mouth of the Rha or Volga, as mentioned in Note 18, p. 24.

[24] On the eastern side.

[25] Across the mouths of the Volga.

tribes with numerous names, and on the other, the Abzoæ, who are also divided into an equal number. At the entrance, on the right hand side,[26] dwell the Udini, a Scythian tribe, at the very angle of the mouth. Then along[27] the coast there are the Albani, the descendants of Jason, it is said; that part of the sea which lies in front of them, bears the name of 'Albanian.' This nation, which lies along the Caucasian chain, comes down, as we have previously stated,[28] as far as the river Cyrus, which forms the boundary of Armenia and Iberia. Above the maritime coast of Albania and the nation of the Udini, the Sarmatæ, the Utidorsi, and the Aroteres stretch along its shores, and in their rear the Sauromatian Amazons, already spoken of.[29]

The rivers which run through Albania in their course to the sea are the Casius[30] and the Albanus,[31] and then the Cambyses,[32] which rises in the Caucasian mountains, and next to it the Cyrus, rising in those of the Coraxici, as already mentioned.[33] Agrippa states that the whole of this coast, inaccessible from rocks of an immense height, is four hundred and twenty-five miles in length, beginning from the river Casius. After we pass the mouth of the Cyrus, it begins to be called the 'Caspian Sea;' the Caspii being a people who dwell upon its shores.

In this place it may be as well to correct an error into which many persons have fallen, and even those who lately took part with Corbulo in the Armenian war. The Gates of Iberia, which we have mentioned[34] as the Caucasian, they have spoken of as being called the 'Caspian,' and the coloured plans which have been sent from those parts to Rome have that name written upon them. The menaced expedition, too, that was contemplated by the Emperor Nero, was said to be designed to extend as far as the Caspian Gates, where-

[26] On a promontory, on the right or eastern side of the mouth of the river Volga.

[27] He here means the western shores of the Caspian, after leaving the mouth of the Volga.

[28] In c. 11.

[29] See the end of c. 14.

[30] The Cæsius of Ptolemy, and the Koisou of modern times.

[31] Probably the modern river Samour.

[32] It is difficult to determine the exact locality of this river, but it would seem to have been near the Amardus, the modern Sefid-Rúd.

[33] In c. 10.

[34] See the beginning of c. 12, and the Note, p. 21.

as it was really intended for those which lead through Iberia into the territory of the Sarmatæ; there being hardly any possibility of approach to the Caspian Sea, by reason of the close juxtaposition of the mountains there. There are, however, other Caspian Gates, which join up to the Caspian tribes; but these can only be distinguished from a perusal of the narrative of those who took part in the expedition of Alexander the Great.

CHAP. 16.—ADIABENE.

The kingdom of the Persians, by which we now understand that of Parthia, is elevated upon the Caucasian chain between two seas, the Persian and the Hyrcanian. To the Greater Armenia, which in the front slopes towards Commagene, is joined Sophene, which lies upon the descent[35] on both sides thereof, and next to it is Adiabene, the most advanced frontier of Assyria; a part of which is Arbelitis,[36] where Alexander conquered Darius, and which joins up to Syria. The whole of this country was called Mygdonia by the Macedonians, on account of the resemblance it bore to Mygdonia[37] in Europe. Its cities are Alexandria,[38] and Antiochia, also called Nisibis;[39] this last place is distant from Artaxata seven hundred and fifty miles. There was also in former times Ninus,[40] a most renowned city, on the banks of the Tigris, with an aspect towards the west. Adjoining the other front of Greater Armenia, which runs down towards the Caspian Sea, we find Atropatene,[41] which

[35] See c. 10.

[36] He alludes to the town of Arbela, where, as it is generally said, the army of Darius was defeated by Alexander the Great; by which engagement the conflict was terminated. It was the fact, however, that Darius left his baggage and treasures at Arbela, while the battle really took place near the village of Gaugamela, about twenty miles to the north-west of Arbela. This place still retains its name of Arbil.

[37] A district in the east of Macedonia, bordering on the Thermaic gulf and the Chalcidic peninsula.

[38] Nothing is known of this place. Hardouin suggests that it may have been built on the spot where Alexander defeated Darius.

[39] Also known as Antiochia Mygdoniæ, the capital of Mygdonia. Its ruins are still to be seen near a place called Nisibin. It stood on the river Mygdonius, now the Nahral Huali.

[40] Or Nineveh, the capital of the great Assyrian monarchy, destroyed by the Medes and Babylonians about B.C. 606.

[41] There is great difficulty in ascertaining, from the accounts given by the ancient writers, the exact limits of this district, but it is supposed to

is separated from Otene, a region of Armenia, by the river Araxes; Gazæ[42] is its chief city, distant from Artaxata four hundred and fifty miles, and the same from Ecbatana in Media, to which country Atropatene belongs.

CHAP. 17. (14.)—MEDIA AND THE CASPIAN GATES.

Ecbatana,[43] the capital of Media, was built[44] by king Seleucus, at a distance from Great Seleucia of seven hundred and fifty miles, and twenty miles from the Caspian Gates. The remaining towns of the Medians are Phazaca, Aganzaga, and Apamea,[45] surnamed Rhagiane. The reason of these passes receiving the name of "Gates," is the same that has been stated above.[46] The chain of mountains is suddenly broken by a passage of such extreme narrowness that, for a distance of eight miles, a single chariot can barely find room to move along: the whole of this pass has been formed by artificial means. Both on the right hand and the left are overhanging rocks, which look as though they had been exposed to the action of fire; and there is a tract of country, quite destitute of water,

have included a considerable portion of the province now known by the name of Azerbaijan. It derived its name from Atropates or Atropes, who was governor of this district under the last Darius.

[42] Most probably the place now known as Gazæa, the royal residence of the Parthian kings, and, as its name would imply, their treasure city. Colonel Rawlinson thinks that this place underwent many changes of name according to the rulers who successively occupied it; among other names, it appears to have borne that of Ecbatana.

[43] A city of great magnitude, pleasantly situate near the foot of Mount Orontes, in the northern part of Greater Media. Its original foundation was attributed by Diodorus Siculus to Semiramis, and by Herodotus to Deioces. It was the capital of the Median kingdom, and afterwards the summer residence of the Persian and Parthian kings. The genuine orthography of the name seems to be Agbatana. The ruins seen at the modern Hamadan are generally supposed to represent those of the ancient Ecbatana; but it is most probable that at different times, if not contemporaneously, there were several cities of this name in Media.

[44] Pliny in this statement, as also in the distances which he here assigns to Ecbatana, is supposed to have confounded Ecbatana with Europus, now Veramin, rebuilt by Seleucus Nicator.

[45] This was a city in the vicinity of Rhagæ, which was distant about 500 stadia from the Caspian Gates. It was built by the Greeks after the Macedonian conquest of Asia. The other places here mentioned do not appear to have been identified.

[46] See the beginning of c. 12, p. 21.

twenty-eight miles in extent. This narrow pass, too, is rendered still more difficult by a liquid salt which oozes from the rocks, and uniting in a single stream, makes its way along the pass. Besides this, it is frequented by such multitudes of serpents, that the passage is quite impracticable except in winter.

(15.) Joining up to Adiabene are the people formerly known as the 'Carduchi,' now the Cordueni,[47] in front of whom the river Tigris flows: and next to them are the Pratitæ, entitled the *Par Odon*,[48] who hold possession of the Caspian Gates.[49] On the other side[50] of these gates we come to the deserts[51] of Parthia and the mountain chain of Cithenus; and after that, the most pleasant locality of all Parthia, Choara[52] by name. Here were two cities of the Parthians, built in former times for their protection against the people of Media, Calliope,[53] and Issatis, the last of which stood formerly[54] on a rock. Hecatompylos,[55] the capital of Parthia, is distant from the Caspian Gates one hundred and thirty-three miles. In such an effectual manner is the kingdom of Parthia shut out by these passes. After leaving these gates we find the nation of the Caspii, extending as far as the shores of the Caspian, a race which has given its name to these gates as well as to the sea: on the left

[47] This was the name of the wild tribes which occupied the high mountainous district between the great upland of Persia and the low plains of Mesopotamia. In addition to the name mentioned by Pliny, they were called Gordyæ, Cardaces, and Curtii. The present Kurds, inhabiting Kurdistan, are supposed to be descended from them.

[48] The Greek παρ' ὁδὸν, "on the road"—meaning, probably, to the Caspian Gates. Hardouin says that the Pratitæ were so called from the Greek πρατῆται, "merchants."

[49] Although dwelling at a considerable distance, the custody of these gates was delivered to them, Hardouin says, by the kings of Media.

[50] To the south-east of them.

[51] Mentioned in c. 29 of the present Book.

[52] Or Choarene.

[53] Its site is unknown; but it is mentioned by Appian as one of the many towns erected by Seleucus.

[54] By the use of the word "quondam," he implies that in his time it was in ruins.

[55] A place of considerable importance, which seems to have derived its name from its "hundred gates." It was one of the capitals of the Arsacidan princes; but, extensive though it may have been, there is great doubt where it was situate, the distance recorded by ancient writers not corresponding with any known ruins.

there is a mountainous district. Turning back[57] from this nation to the river Cyrus, the distance is said to be two hundred and twenty miles; but if we go from that river as far down as the Caspian Gates, the distance is seven hundred[58] miles. In the itineraries of Alexander the Great these gates were made the central or turning point in his expeditions; the distance from the Caspian Gates to the frontier of India being there set down as fifteen thousand six hundred and eighty[59] stadia, to the city of Bactra,[60] commonly called Zariaspa, three thousand seven hundred, and thence to the river Jaxartes[61] five thousand stadia.

CHAP. 18. (16.)—NATIONS SITUATE AROUND THE HYRCANIAN SEA.

Lying to the east of the Caspii is the region known as Apavortene,[62] in which there is a place noted for its singular fertility, called Dareium.[63] We then come to the nations of the Tapyri,[64] the Anariaci, the Staures, and the Hyrcani, past whose shores and beyond the river Sideris[65] the Caspian begins to take the name of the 'Hyrcanian' Sea: on this side of that stream are also the rivers Maxeras and Strato; all of them take their rise in the Caucasian chain. Next comes

[57] In a northern direction, along the western shores of the Caspian.

[58] According to Hardouin, Eratosthenes, as quoted by Strabo, makes the distance 5060 stadia, or about 633 miles. He has, however, mistranslated the passage, which gives 5600 stadia, or 700 miles exactly, as stated by Pliny.

[59] Or 1960 miles.

[60] Bactra, Bactrum, or Bactrium, was one of the chief cities, if not the capital, of the province of Bactriana. It was one of the most ancient cities in the world, and the modern Balkh is generally supposed to occupy its site. Strabo, as well as Pliny, evidently considers that Bactra and Zareispa were the same place, while Appian distinguishes between the two, though he does not clearly state their relative positions.

[61] The modern Syr-Daria, mentioned in c. 15. See p. 25.

[62] By some writers called Apavareticene, in the south-eastern part of Parthia. Ansart says that it is now known as Asterabad and Ghilan.

[63] Or Dara. A strongly fortified place, built by Arsaces I., and situate on the mountains of the Zapaorteni.

[64] According to Ansart, the district now known as Tabaristan, or Mazanderan, derives the first of those names from the Tapyri.

[65] D'Anville remarks that this river still retains its "starry" name, being the modern Aster or Ester, on which Asterabad is situate.

the district of Margiane,[66] so remarkable for its sunny climate. It is the only spot in all these regions that produces the vine, being shut in on every side by verdant and refreshing hills. This district is fifteen hundred stadia in circumference, but is rendered remarkably difficult of access by sandy deserts, which extend a distance of one hundred and twenty miles: it lies opposite to the country of Parthia, and in it Alexander founded the city of Alexandria. This place having been destroyed by the barbarians, Antiochus,[67] the son of Seleucus, rebuilt it on the same site as a Syrian city.[68] For, seeing that it was watered by the Margus,[69] which passes through it, and is afterwards divided into a number of streams for the irrigation of the district of Zothale, he restored it, but preferred giving it the name of Antiochia.[70] The circumference of this city is seventy stadia: it was to this place that Orodes conducted such of the Romans as had survived the defeat of Crassus. From the mountain heights of this district, along the range of Caucasus, the savage race of the Mardi, a free people, extends as far as the Bactri.[71] Below the district inhabited by them, we find the nations of the Orciani, the Commori, the Berdrigæ, the Harmatotropi,[72] the Citomaræ, the Comani, the Marucæi, and the Mandruani. The rivers here are the Mandrus and the Chindrus.[73] Beyond the nations already mentioned, are the

[66] This district occupied the southern part of modern Khiva, the south-western part of Bokhara, and the north-eastern part of Khorassan. This province of the ancient Persian empire received its name from the river Margus, now the Moorghab. It first became known to the Greeks by the expeditions of Alexander and Antiochus I.

[67] Antiochus Soter, the son of Seleucus Nicator.

[68] The meaning of this, which has caused great diversity of opinion among the Commentators, seems to be, that on rebuilding it, he preferred giving it a name borne by several cities in Syria, and given to them in honour of kings of that country. To this he appears to have been prompted by a supposed resemblance which its site on the Margus bore to that of Antiochia on the Orontes.

[69] The modern Moorghab; it loses itself in the sands of Khiva.

[70] Its remains are supposed to be those of an ancient city, still to be seen at a spot called Merv, on the river Moorghab.

[71] The people of modern Bokhara.

[72] This appears to mean the nations of "Chariot horse-breeders."

[73] In former editions, called the 'Gridinus.' It is impossible to identify many of these nations and rivers, as the spelling varies considerably in the respective MSS.

Chorasmii,[74] the Candari,[75] the Attasini, the Paricani, the Sarangæ, the Marotiani, the Aorsi,[76] the Gaëli, by the Greek writers called Cadusii,[77] the Matiani, the city of Heraclea,[78] which was founded by Alexander, but was afterwards destroyed, and rebuilt by Antiochus, and by him called Achaïs; the Derbices also,[79] through the middle of whose territory the river Oxus[80] runs, after rising in Lake Oxus,[81] the Syrmatæ, the Oxydracæ, the Heniochi, the Bateni, the Saraparæ, and the Bactri, whose chief city is Zariaspe, which afterwards received the name of Bactra, from the river[82] there. This last nation lies at the

[74] An extensive tribe of Sogdiana, now represented by the district of Khawarezm, in the desert country of Khiva.

[75] A tribe in the north-western part of Sogdiana. They appear to have been situate to the east of the district of Khawarezm. It has been suggested that they derived their name from the Sanscrit Gandharas, a tribe beyond the Indus.

[76] The chief seat of the Aorsi, who appear to have been a numerous and powerful people both of Europe and Asia, was in the country between the Tanais, the Euxine, the Caspian, and the Caucasus. It seems doubtful, however, whether it is these people who are alluded to in the present passage.

[77] These would almost seem to be a different people from those mentioned in c. 15 of the present Book, as dwelling in Atropatene. The present appears to have been a tribe of Sogdiana.

[78] Strabo mentions a town of this name, which he places, together with Apamea, in the direction of Rhagæ. If Pliny has observed anything like order in his recital of nations and places, the Heraclea here mentioned cannot be that spoken of by Strabo, but must have been distant nearly 1000 miles from it.

[79] This was a tribe, apparently of Scythian origin, settled in Margiana, on the left bank of the Oxus. Strabo says that they worshipped the earth, and forbore to sacrifice or slay any female; but that they put to death their fellow-creatures as soon as they had passed their seventieth year, it being the privilege of the next of kin to eat the flesh of the deceased person. The aged women, however, they used to strangle, and then consign them to the earth.

[80] The modern Jihoun or Amou. It now flows into the Sea of Aral, but the ancients universally speak of it as running into the Caspian; and there are still existing distinct traces of a channel extending in a south-westerly direction from the sea of Aral to the Caspian, by which at least a portion, and probably the whole of the waters of the Oxus found their way into the Caspian; and not improbably the Sea of Aral itself was connected with the Caspian by this channel.

[81] Most probably under this name he means the Sea of Aral.

[82] The Bactrus. This river is supposed to be represented by the modern Dakash. Hardouin says that Ptolemy, B. vi. c. 11, calls this river the Zariaspis, or Zariaspes. See the Note at the end of c. 17, p. 30.

back of Mount Paropanisus,[83] over against the sources of the river Indus, and is bounded by the river Ochus.[84] Beyond it are the Sogdiani,[85] the town of Panda, and, at the very extremity of their territory, Alexandria,[86] founded by Alexander the Great. At this spot are the altars which were raised by Hercules and Father Liber, as also by Cyrus, Semiramis, and Alexander; for the expeditions of all these conquerors stopped short at this region, bounded as it is by the river Jaxartes, by the Scythians known as the Silis, and by Alexander and his officers supposed to have been the Tanais. This river was crossed by Demodamas, a general of kings Seleucus and Antiochus, and whose account more particularly we have here followed. He also consecrated certain altars here to Apollo Didymæus.[87]

CHAP. 19. (17.)—THE NATIONS OF SCYTHIA AND THE COUNTRIES ON THE EASTERN OCEAN.

Beyond this river are the peoples of Scythia. The Persians have called them by the general name of Sacæ,[88] which properly

[83] Now known as the Hindoo-Koosh; a part of the great mountain-chain which runs from west to east through the centre of the southern portion of the highlands of Central Asia, and so divides the part of the continent which slopes down to the Indian ocean from the great central table-land of Tartary and Thibet. The native term, Hindoo-Koosh, is only a form of the ancient name "Indicus Caucasus," which was sometimes given to this chain. The ancient name was derived probably from the Persian word *paru*, a "mountain."

[84] Flowing from the north side of the Paropanisus. According to Pliny and Ptolemy, this river flowed through Bactria into the Oxus; but according to Strabo, through Hyrcania into the Caspian Sea. Some suppose it to have been only another name for the Oxus. Ansart suggests that it may have been the river now known as the Bash.

[85] D'Anville says that there is still the valley of Al Sogd, in Tartary, beyond the Oxus. The district called Sogdiana was probably composed of parts of modern Turkistan and Bokhara. The site of Panda does not appear to be known.

[86] It was built on the Jaxartes, to mark the furthest point reached by Alexander in his Scythian expedition. It has been suggested that the modern Kokend may possibly occupy its site.

[87] The "twin," of the same birth with Diana.

[88] The Sacæ probably formed one of the most numerous and most powerful of the Scythian Nomad tribes, and dwelt to the east and north-east of the Massagetæ, as far as Servia, in the steppes of Central Asia, which

belongs to only the nearest nation of them. The more ancient writers give them the name of Aramii. The Scythians themselves give the name of "Chorsari" to the Persians, and they call Mount Caucasus Graucasis, which means "white with snow." The multitude of these Scythian nations is quite innumerable: in their life and habits they much resemble the people of Parthia. The tribes among them that are better known are the Sacæ, the Massagetæ,[89] the Dahæ,[90] the Essedones,[91] the Ariacæ,[92] the Rhymmici, the Pæsici, the Amardi,[93] the Histi, the Edones, the Camæ, the Camacæ, the Euchatæ,[94] the Cotieri, the Anthusiani, the Psacæ, the Arimaspi,[95] the Antacati, the Chroasai, and the

are now peopled by the Kirghiz Cossacks, in whose name that of their ancestors, the Sacæ, is traced by some geographers.

[89] Meaning the "Great Getæ." They dwelt beyond the Jaxartes and the Sea of Aral, and their country corresponds to that of the Khirghiz Tartars in the north of Independent Tartary.

[90] The Dahæ were a numerous and warlike Nomad tribe, who wandered over the vast steppes lying to the east of the Caspian Sea. Strabo has grouped them with the Sacæ and Massagetæ, as the great Scythian tribes of Inner Asia, to the north of Bactriana.

[91] See also B. iv. c. 20, and B. vi. c. 7. The position of the Essedones, or perhaps more correctly, the Issedones, may probably be assigned to the east of Ichim, in the steppes of the central border of the Kirghiz, in the immediate vicinity of the Arimaspi, who dwelt on the northern declivity of the Altaï chain. A communication is supposed to have been carried on between these two peoples for the exchange of the gold that was the produce of those mountain districts.

[92] They dwelt, according to Ptolemy, along the southern banks of the Jaxartes.

[93] Or the Mardi, a warlike Asiatic tribe. Stephanus Byzantinus, following Strabo, places the Amardi near the Hyrcani, and adds, "There are also Persian Mardi, without the *a*;" and, speaking of the Mardi, he mentions them as an Hyrcanian tribe, of predatory habits, and skilled in archery.

[94] D'Anville supposes that the Euchatæ may have dwelt at the modern Koten, in Little Bukharia. It is suggested, however, by Parisot, that they may have possibly occupied a valley of the Himalaya, in the midst of a country known as "Cathai," or the "desert."

[95] The first extant notice of them is in Herodotus; but before him there was the poem of Aristeas of Proconnesus, of which the title was 'Arimaspea;' and it is mainly upon the statements in it that the stories told relative to this people rest—such as their being one-eyed, and as to their stealing the gold from the Gryphes, or Griffins, under whose custody it was placed. Their locality is by some supposed to have been on the left bank of the Middle Volga, in the governments of Kasan, Simbirsk, and Saratov: a

Œtei; among them the Napæi[96] are said to have been destroyed by the Palæi. The rivers in their country that are the best known, are the Mandragæus and the Carpasus. Indeed upon no subject that I know of are there greater discrepancies among writers, from the circumstance, I suppose, of these nations being so extremely numerous, and of such migratory habits. Alexander the Great has left it stated that the water of this sea[97] is fresh, and M. Varro informs us, that some of it, of a similar character, was brought to Pompey, when holding the chief command in the Mithridatic war in its vicinity; the salt,[98] no doubt, being overpowered by the volume of water discharged by the rivers which flow into it. He adds also, that under the direction of Pompey, it was ascertained that it is seven days' journey from India to the river Icarus,[99] in the country of the Bactri, which discharges itself into the Oxus, and that the merchandize of India being conveyed from it[1] through the Caspian Sea into the Cyrus, may be brought by land to Phasis in Pontus, in five days at most. There are numerous islands throughout the whole of the Caspian sea: the only one that is well known is that of Tazata.[2]

CHAP. 20.—THE SERES.

After we have passed the Caspian Sea and the Scythian Ocean, our course takes an easterly direction, such being the

locality which is sufficiently near the gold districts of the Uralian chain to account for the legends connecting them with the Gryphes, or guardians of the gold.

[96] The former reading was, "The Napæi are said to have perished as well as the Apellæi." Sillig has, however, in all probability, restored the correct one. "Finding," he says, "in the work of Diodorus Siculus, that two peoples of Scythia were called, from their two kings, who were brothers, the Napi and the Pali, we have followed close upon the footsteps of certain MSS. of Pliny, and have come to the conclusion that some disputes arose between these peoples, which ultimately led to the destruction of one of them."

[97] Of the Caspian Sea.

[98] Said on the supposition that it is a bay or gulf of the Scythian or Septentrional Ocean.

[99] Ansart suggests that this is the modern Rocsha.

[1] From the Oxus.

[2] Ansart suggests that this island is that now called Idak, one of the Ogurtchinski group.

turn here taken by the line of the coast. The first portion[3] of these shores, after we pass the Scythian Promontory, is totally uninhabitable, owing to the snow, and the regions adjoining are uncultivated, in consequence of the savage state of the nations which dwell there. Here are the abodes of the Scythian Anthropophagi,[4] who feed on human flesh. Hence it is that all around them consists of vast deserts, inhabited by multitudes of wild beasts, which are continually lying in wait, ready to fall upon human beings just as savage as themselves. After leaving these, we again come to a nation of the Scythians, and then again to desert tracts tenanted by wild beasts, until we reach a chain of mountains which runs up to the sea, and bears the name of Tabis.[5] It is not, however, before we have traversed very nearly one half of the coast that looks towards the north-east, that we find it occupied by inhabitants.

The first people that are known of here are the Seres,[6] so famous for the wool that is found in their forests.[7] After steeping it in water, they comb off a white down that adheres to the leaves; and then to the females of our part of the world they give the twofold task[8] of unravelling their textures, and of weav-

[3] This would apply to the north-eastern coasts of Siberia, if Pliny had had any idea of land situate in such high latitudes; but, on the contrary, as already remarked, he appears to have supposed that the continent of Asia terminated a little above the northern extremity of the Caspian. It would be a loss of time to guess what locality is meant by the Scythian Promontory.

[4] Or "man-eaters."

[5] This, it would appear, he looks upon as the extreme north-eastern point of Asia. Parisot suggests that the word Tabis is allied to the Mongol Daba, which signifies "mountain;" or else that it may have some affinity with "Thibet."

[6] The people of Serica, which country with Ptolemy corresponds to the north-western part of China, and the adjacent portions of Thibet and Chinese Tartary. The capital, Sera, is by most supposed to be Singan, on the Hoang-ho, but by some Peking. Pliny evidently refers to the same people, and has some notion of the locality of their country.

[7] This is generally supposed to bear reference to the cloths exported by the Seres, as *Serica*, and corresponding to our silks. On examination, however, it will appear that he rather refers to some textures of cotton, such as calicos or muslins; it being not unknown to Pliny that silks or *bombycina* were the produce of the bombyx or silk-worm; see B. xi. c. 22. The use of the word "canities" points strongly to cotton as being the substance meant.

[8] Whether it is silk or cotton that is here referred to, Pliny seems in

ing the threads afresh. So manifold is the labour, and so distant are the regions which are thus ransacked to supply a dress through which our ladies may in public display[9] their charms. The Seres are of inoffensive manners, but, bearing a strong resemblance therein to all savage nations, they shun all intercourse with the rest of mankind, and await the approach[10] of those who wish to traffic with them. The first river that is known in their territory is the Psitharas,[11] next to that the Cambari, and the third the Laros; after which we come to the Promontory of Chryse,[12] the Gulf of Cynaba, the river Atianos, and the nation of the Attacori on the gulf of that name, a people protected by their sunny hills from all noxious blasts, and living in a climate of the same temperature as that of the Hyperborei. Amometus has written a work entirely devoted to the history of these people, just as Hecatæus has done in his treatise on the Hyperborei. After the Attacori, we find the nations of the Phruri and the Tochari, and, in the interior, the Casiri, a people of India, who look toward the Scythians, and feed

this passage to allude to some peculiarity in the texture, which was perhaps so close, that when brought to the Western world it was the custom to draw out a portion of the threads. In such case it perhaps strongly resembled the Chinese crapes of the present day. Speaking of Cleopatra in B. x. 141, of the Pharsalia, Lucan says, "Her white breasts are resplendent through the Sidonian fabric, which, wrought in close texture by the sley of the Seres, the needle of the workman of the Nile has separated, and has loosened the warp by stretching out the web."

[9] He either refers to dresses consisting of nothing but open work, or what we may call fine lace, and made from the closely woven material imported from China, or else to the 'Coan vestments' which were so much worn by the Roman women, especially those of light character, in the Augustan age. This Coan tissue was remarkable for its extreme transparency. It has been supposed that these dresses were made of silk, as in the island of Cos silk was spun and woven at an early period, so much so as to obtain a high celebrity for the manufactures of that island. Seneca, B. vii. De Benef. severely censures the practice of wearing these thin garments. For further information on this subject, see B. xi. c. 26, 27, and B. xii. c. 22.

[10] Meaning that they do not actively seek intercourse with the rest of the world, but do not refuse to trade with those who will take the trouble of resorting to them. This coincides wonderfully with the character of the Chinese even at the present day.

[11] Ptolemy speaks of it as the Œchordas.

[12] The headland of Malacca, in the Aurea Chersonnesus, was also called by this name, but it is hardly probable that that is the place here meant.

on human flesh. Here are also numerous wandering Nomad tribes of India. There are some authors who state that in a north-easterly direction these nations touch upon the Cicones[13] and the Brysari.

CHAP. 21.—THE NATIONS OF INDIA.

But we come now to nations as to which there is a more general agreement among writers. Where the chain of Emodus[14] rises, the nations of India begin, which borders not only on the Eastern sea, but on the Southern as well, which we have already mentioned[15] as being called the Indian Ocean. That part which faces the east runs in a straight line a distance of eighteen hundred and seventy-five miles until it comes to a bend, at which the Indian Ocean begins. Here it takes a turn to the south, and continues to run in that direction a distance of two thousand four hundred and seventy-five miles, according to Eratosthenes, as far as the river Indus, the boundary of India on the west.[16] Many authors have represented the entire length of the Indian coast as being forty days' and nights' sail, and as being, from north to south, two thousand eight hundred and fifty miles. Agrippa states its length to be three thousand three hundred miles, and its breadth, two thousand three hundred. Posidonius has given its measurement as lying from north-east to south-east, placing it opposite to Gaul, of which country he has given the measurement as lying from north-west to south-west; making the whole of India to lie due west of Gaul. Hence, as he has shewn by undoubted proofs, India lying opposite to Gaul must be refreshed

[13] See B. iv. c. 18.

[14] The Emodi Montes (so called probably from the Indian *hemâdri*, or the "golden") are supposed to have formed that portion of the great lateral branch of the Indian Caucasus, the range of the Himalaya, which extends along Nepaul, and probably as far as Bhotan.

[15] In c. 14 of the present Book.

[16] The whole of this passage seems very intricate, and it is difficult to make sense of it. His meaning, however, is probably this: that the coast of India, running from extreme north-east to south-east, relatively to Greece, the country of Eratosthenes, is exactly opposite to the coast of Gaul, running from extreme north-west to south-west—India thus lying due west of Gaul, without any intervening land. This, it will be remembered, was the notion of Columbus, when contemplating the possibility of a western passage to India.

by the blowing of that wind,[17] and derive its salubrity therefrom.

In this region, the appearance of the heavens is totally changed, and quite different is the rising of the stars; there are two summers in the year, and two harvests, while the winter intervenes between them during the time that the Etesian[18] winds are blowing: during our winter too, they enjoy light breezes, and their seas are navigable. In this country there are nations and cities which would be found to be quite innumerable, if a person should attempt to enumerate them. For it has been explored not only by the arms of Alexander the Great and of the kings who succeeded him, by Seleucus and Antiochus, who sailed round even to the Caspian and Hyrcanian Sea, and by Patrocles,[19] the admiral of their fleet, but has been treated of by several other Greek writers who resided at the courts of Indian kings, such, for instance, as Megasthenes, and by Dionysius, who was sent thither by Philadelphus, expressly for the purpose: all of whom have enlarged upon the power and vast resources of these nations. Still, however, there is no possibility of being rigorously exact, so different are the accounts given, and often of a nature so incredible. The followers of Alexander the Great have stated in their writings, that there were no less than five thousand cities in that portion of India which they

[17] This appears also to be somewhat obscure. It is clear that if India lies to the west of Gaul, it cannot be Pliny's meaning that it is refreshed by the *west* wind blowing *to* it *from* Gaul. He may possibly mean that the west wind, which is so refreshing to the west of Europe, and Gaul in particular, first sweeps over India, and thus becomes productive of that salubrity which Posidonius seems to have discovered in India, but for which we look in vain at the present day. Amid, however, such multiplied chances of a corrupt text, it is impossible to assume any very definite position as to his probable meaning. The French translators offer no assistance in solving the difficulty, and Holland renders it, "This west wind which *from behind* Gaul bloweth upon India, is very healthsome," &c.

[18] As to the Etesian winds, see B. ii. c. 48.

[19] In the geographical work which Patrocles seems to have published, he is supposed to have given some account of the countries bordering on the Caspian Sea, and there is little doubt that, like other writers of that period, he regarded that sea as a gulf or inlet of the Septentrional Ocean, and probably maintained the possibility of sailing thither by sea from the Indian Ocean. This statement, however, seems to have been strangely misinterpreted by Pliny in his present assertion, that Patrocles had himself accomplished this circumnavigation.

vanquished by force of arms, not one of which was smaller than that of Cos;[20] that its nations were eight in number, that India forms one-third of the whole earth, and that its populations are innumerable—a thing which is certainly far from improbable, seeing that the Indians are nearly the only race of people who have never migrated from their own territories. From the time of Father Liber[21] to that of Alexander the Great, one hundred and fifty-three kings of India are reckoned, extending over a period of six thousand four hundred and fifty-one years and three months. The vast extent of their rivers is quite marvellous; it is stated that on no one day did Alexander the Great sail less than six hundred stadia[22] on the Indus, and still was unable to reach its mouth in less than five months and some few days: and yet it is a well-known fact that this river is not so large as the Ganges.[23] Seneca, one of our fellow-countrymen, who has written a treatise[24] upon the subject of India, has given its rivers as sixty-five in number, and its nations as one hundred and eighteen. The difficulty too would be quite as great, if we were to attempt to enumerate its mountains. The chains of Emaüs, of Emodus, of Paropanisus, and of Caucasus, are all connected, the one with the other; and from their foot, the country of India runs down in the form of a vast plain, bearing a very considerable resemblance to that of Egypt.

However, that we may come to a better understanding relative to the description of these regions, we will follow in the track of Alexander the Great. Diognetus and Bæton, whose duty it was to ascertain the distances and length of his expeditions, have written that from the Caspian Gates to Hecatompylon, the city of the Parthians, the distance is the number of miles which we have already[25] stated; and that from thence to Alexandria,[26] of the Arii, which city was founded by the same king, the distance is five hundred and seventy-five miles; from thence to Prophthasia,[27] the city of the Drangæ, one

[20] See B. v. c. 36.
[21] Or Bacchus.
[22] Or seventy-five miles.
[23] This is the statement of Arrian.
[24] Among the lost works of that philosopher.
[25] In c. 17 of the present Book.
[26] See c. 25 of the present Book.
[27] See c. 25 of the present Book.

hundred and ninety-nine; from thence to the city of the Arachosii,[28] five hundred and sixty-five; from thence to Ortospanum,[29] one hundred and seventy-five; and from thence to the city built by Alexander,[30] fifty, miles. In some copies, however, the numbers are found differently stated; and we find this last city even placed at the very foot of Mount Caucasus! From this place to the river Cophes[31] and Peucolaitis, a city of India, is two hundred and thirty-seven miles; from thence to the river Indus and the city of Taxilla[32] sixty; from thence to the famous river Hydaspes[33] one hundred and twenty; and from thence to the Hypasis,[34] a river no less famous, two hundred and ninety miles, and three hundred and ninety paces. This last was the extreme limit of the expedition of Alexander, though he crossed the river and dedicated certain altars[35] on the opposite side. The dispatches written by order of that king fully agree with the distances above stated.

The remaining distances beyond the above point were ascertained on the expedition of Seleucus Nicator. They are, to the river Sydrus,[36] one hundred and sixty-eight miles; to the river Jomanes, the same; some copies, however, add

[28] See c. 25 of the present Book.

[29] A town placed by Strabo on the confines of Bactriana, and by Ptolemy in the county of the Paropanisidæ.

[30] See c. 25 of the present Book.

[31] See c. 24 of the present Book.

[32] The present Attok, according to D'Anville.

[33] One of the principal rivers of that part of India known as the Punjaub. It rises in the north-western Himalayah mountains in Kashmere, and after flowing nearly south, falls into the Acesines or Chenab. Its present most usual name is the Jhelum.

[34] The most eastern, and most important of the five rivers which water the country of the Punjaub. Rising in the western Himalaya, it flows in two principal branches, in a course nearly south-west (under the names respectively of Vipasa and Satadru), which it retains till it falls into the Indus at Mittimkote. It is best known, however, by its modern name of Sutlej, probably a corrupt form of the Sanscrit Satadru.

[35] See c. 18 of the present Book. The altars there spoken of, as consecrated by Alexander the Great, appear to have been erected in Sogdiana, whereas those here mentioned were dedicated in the Indian territory.

[36] It does not appear that this river has been identified. In most of the editions it is called Hesidrus; but, as Sillig observes, there was a town of India, near the Indus, called Sydros, which probably received its name from this river.

to this last distance five miles; thence to the Ganges, one hundred and twelve miles; to Rhodapha, five hundred and sixty-nine—though, according to some writers, this last distance is only three hundred and twenty-five miles; to the town of Calinipaxa,[37] one hundred and sixty-seven, according to some, two hundred and sixty-five; thence to the confluence of the river Jomanes[38] and Ganges, six hundred and twenty-five; most writers, however, add thirteen miles to this last distance; thence to the city of Palibothra,[39] four hundred and twenty-five—and thence to the mouth of the Ganges, six hundred and thirty-seven miles and a half.

The nations whom it may be not altogether inopportune to mention, after passing the Emodian Mountains, a cross range of which is called "Imaus," a word which, in the language of the natives, signifies "snowy,"[40] are the Isari, the Cosyri, the Izi, and, upon the chain of mountains, the Chisiotosagi, with numerous peoples, which have the surname of Brachmanæ,[41] among whom are the Maccocalingæ. There are also the rivers Prinas and Cainas,[42] which last flows into the Ganges, both of them navigable streams. The nation of the Calingæ[43]

[37] It has been suggested that this place is the modern Kanouge, on the Ganges.

[38] The modern Jumna. It must be borne in mind by the reader, that the numbers given in this Chapter vary considerably in the different MSS.

[39] See the next Chapter.

[40] The Sanscrit for "snowy" is "*himarat*." The name of Emodus, combined with Imaüs, seems here to be a description of the knot of mountains formed by the intersections of the Himalaya, the Hindoo Koosh, and the Bolor range; the latter having been for many ages the boundary between the empires of China and Turkistan. It is pretty clear, that, like Ptolemy, Pliny imagined that the Imaüs ran from south to north; but it seems hardly necessary, in this instance at least, to give to the word "promontorium" the meaning attached to our word "promontory," and to suppose that he implies that the range of the Imaüs runs down to the verge of the eastern ocean.

[41] A name evidently given to numerous tribes of India, from the circumstance that Alexander and his followers found it borne by the Brahmins or priestly caste of the Hindoos.

[42] Still called the Cane, a navigable river of India within the Ganges, falling into the Ganges, according to Arrian as well as Pliny, though in reality it falls into the Jumna.

[43] The Calingæ, who are further mentioned in the next Chapter, probably dwelt in the vicinity of the promontory of Calingon, upon which was the town of Dandaguda, mentioned in c. 23 of the present Book. This promontory and city are usually identified with those of Calinapatnam, about

comes nearest to the sea, and above them are the Mandei and the Malli.[44] In the territory of the last-named people is a mountain called Mallus: the boundary of this region is the river Ganges.

CHAP. 22. (18.)—THE GANGES.

Some writers have stated that this river, like the Nile, takes its rise from unknown sources,[45] and, in a similar manner, waters the neighbouring territory; others, again, say that it rises in the mountains of Scythia. They state also that nineteen rivers discharge their waters into it; those among them that are navigable, besides the rivers already mentioned,[46] are the Condochates,[47] the Erannoboas,[48] the Cosoagus,[49] and the Sonus. Other writers again say that it bursts forth at its very source with a loud noise, hurling itself over rocks and precipices; and that after it has reached the plains, its waters become more tranquil, and it pauses for a time in a certain lake, after which it flows gently on. They say also that it is eight miles in breadth, where it is the very narrowest, and

half-way between the rivers Mahanuddy and Godavery; and the territory of the Calingæ seems to correspond pretty nearly to the district of Circars, lying along the coast of Orissa.

[44] By the Malli, Parisot is of opinion that the people of Moultan are meant.

[45] So much so, indeed, that its sources were unknown to the learned world till the beginning of the present century, although the Chinese emperor Tang-Hi on one occasion sent a body of Llamas for the purpose of inquiring into the subject. It is now ascertained that the river Ganges is the result of the confluence of three separate streams, which bear the respective names of the Gannavi, the Bhagirathi, and the Alakananda. The second is of the most sacred character, and is the one to which the largest concourse of pilgrims resort. The ancients held various opinions as to the sources of the river.

[46] The Cainas and the Jomanes, mentioned in the last Chapter.

[47] The modern Gandaki or Gundûk is generally supposed to be represented by the Condochates.

[48] Represented as flowing into the Ganges at Palimbothra, the modern Patna. There has been considerable discussion among the learned as to what river is indicated by this name. It has, however, been considered most probable that it is the same as the Sonus of Pliny, the modern Soane, though both that author, as well as Arrian, speaks of two rivers, which they call respectively Erannoboas and Sonus. The name was probably derived from the Sanscrit Hyranyavahas, the poetical name of the Sonus.

[49] Supposed to be the same as the river Cosi or Coravaha.

one hundred stadia where it is but moderately wide, and that it is nowhere less than twenty paces in depth. The last nation situate on the banks of the Ganges is that of the Gangarides[50] Calingæ; the city where their king dwells has the name of Protalis.[51]

(19.) This king has sixty thousand foot-soldiers, one thousand horse, and seven hundred elephants, always caparisoned ready for battle. The people of the more civilized nations of India are divided into several classes.[52] One of these classes tills the earth, another attends to military affairs, others again are occupied in mercantile pursuits, while the wisest and the most wealthy among them have the management of the affairs of state—act as judges, and give counsel to the king. The fifth class,[53] entirely devoting themselves to the pursuit of wisdom, which in these countries is almost held in the same veneration as religion, always[54] end their life by a voluntary death upon the lighted pile. In addition to these, there is a class[55] in a half-savage state, and doomed to endless labour; by means of their exertions, all the classes previously mentioned are supported. It is their duty to hunt[56] the elephant, and to tame him when captured; for it is by the aid of these animals that they plough; by these animals they are conveyed

[50] The wide diffusion of the Calingæ, and their close connection with the Gangaridæ, are shown by the fact that Pliny here calls them "Calingæ Gangarides," and mentions the Modogalingæ on a large island in the Ganges, and the Maccocalingæ on the upper course of that river. See note 43, p. 42.

[51] Called Parthalis in most of the editions.

[52] Or *castes*, as we call them. These institutions prevail equally at the present day, and the divisions of the duties of the respective castes are pretty much as Pliny states them to be, except that the husbandmen and merchants form one class, called the Vaisya, the Brahmins being the ministers of religion, the Kshatriya forming the warlike class, the Sudra constituting the menial or servant class. Pliny here represents the rulers and councillors as forming a distinct class. Such, however, does not appear to be the fact; for we find that the sovereign is chosen from the Kshatriya or military class, while from the Brahmins are selected the royal councillors, judges, and magistrates of the country.

[53] He alludes to the Brahmins, who seem to have been called by the Greek writers "Gymnosophists," or "naked wise men." The Brahmin Calanus is a memorable example of this kind of self-immolation.

[54] It is extremely doubtful if, even in his own day, Pliny was correct in venturing upon so sweeping an assertion.

[55] The Sudra or menial caste.

[56] He is incorrect here; these duties devolve on the Vaisya class.

from place to place; these in especial they look upon as constituting their flocks and herds; by their aid they wage their wars, and fight in defence of their territories. Strength, age, and size, are the points usually considered in making choice of these animals.

In the Ganges there is an island of very considerable size, inhabited by a single nation; it is called Modogalinga.[57] Beyond the Ganges are situate the Modubæ, the Molindæ, the Uberæ, with a magnificent city of the same name, the Modresi, the Preti, the Caloæ, the Sasuri, the Passalæ, the Colobæ, the Orumcolæ, the Abali, and the Thalutæ. The king of the last-named people has fifty thousand foot-soldiers, four thousand horse, and four hundred armed elephants. We next come to a still more powerful nation, the Andaræ,[58] who dwell in numerous villages, as well as thirty cities fortified with walls and towers. They furnish for their king one hundred thousand foot, two thousand horse, and a thousand elephants. The country of the Dardæ[59] is the most productive of gold, that of the Setæ of silver.

But more famous and more powerful than any nation, not only in these regions, but throughout almost the whole of India, are the Prasii, who dwell in a city of vast extent and of remarkable opulence, called Palibothra;[60] from which circumstance some writers have given to the people themselves the name of Palibothri, and, indeed, to the whole tract of country between the Ganges and the Indus. These people keep on daily pay in their king's service an army, consisting of six hundred thousand foot, thirty thousand horse, and nine thousand elephants, from which we may easily form a conjecture as to the vast extent of their resources. Behind these

[57] Inhabited, probably, by a branch of the Calingæ previously mentioned.

[58] Ansart suggests that this may be the modern kingdom of Pegu. He thinks also that the preceding kingdom may be that now called Arracan.

[59] These may possibly be the Daradræ of Ptolemy, but it seems impossible to guess their locality.

[60] Probably the present Patna. D'Anville, however, identifies it with Allahabad, while Welford and Wahl are inclined to think it the same as Radjeurah, formerly called Balipoutra or Bengala. The Prasii are probably the race of people mentioned in the ancient Sanscrit books under the name of the "Pragi" or the Eastern Empire, while the Gangarides are mentioned in the same works under the name of "Gandaressa" or Kingdom of the Ganges.

people, and lying still more in the interior, are the Monedes, and the Suari,[61] among whom is a mountain known as Maleus, upon which the shadow falls to the north in winter, and to the south in summer, six months alternately. In this district the Constellation of the Greater Bear[62] is seen at only one period in the year, and then but for fifteen days, according to what Bæton states. Megasthenes, however, informs us that the same is the case also in many other localities of India. The South Pole is by the Indians called Diamasa.

The river Jomanes runs into the Ganges through the territory of the Palibothri, between the cities of Methora[63] and Chrysobora.[64] In the regions which lie to the south[65] of the Ganges, the people are tinted by the heat of the sun, so much so as to be quite coloured, but yet not burnt black, like the Æthiopians. The nearer[66] they approach the Indus, the deeper their colour, a proof of the heat of the climate. After leaving the nation of the Prasii, we immediately come to the Indus; in the mountains of the Prasii a race of Pygmies is said to exist. Artemidorus says that between these two rivers there is a distance of two thousand one hundred miles.

CHAP. 23. (20.)—THE INDUS.

The Indus, called Sindis by the natives, rises in that branch of the Caucasian range which bears the name of Paropanisus,[67]

[61] Hardouin is of opinion that these nations dwelt in the localities occupied by the districts of Gwalior and Agra.

[62] The Septentriones or "Seven Trions," in the original. Parisot is of opinion that under this name of Mount Maleus he alludes to the Western Ghauts, and that the name still survives in the word Malabar. He also remarks that this statement of Pliny is not greatly exaggerated.

[63] Ansart says that this is the same as the modern town of Muttra or Matra upon the Jumna, and to the north of Agra.

[64] Or Clisobora, according to Hardouin. It does not appear to have been identified.

[65] In the Indian Peninsula, constituting more especially the presidency of Madras.

[66] It is clear that he looks upon the countries of the Indus as lying to the south of the Ganges.

[67] Or Hindoo Koosh. In this statement he is supported by Arrian, Strabo, Mela, and Quintus Curtius. It rises, however, a considerable distance on the north-east side of the Himalaya.

and runs in an easterly direction, receiving in its course the waters of nineteen rivers. The most famous of these are the Hydaspes,[68] into which four other rivers have already discharged themselves, the Cantaba,[69] which receives three other rivers, the Acesinus, and the Hypasis,[70] which last two are navigable themselves. Still however, so moderate, as it were, do the waters of this river show themselves in their course, that it is never more than fifty stadia in width, nor does it ever exceed fifteen paces in depth. Of two islands, which it forms in its course, the one, which is known as Prasiane, is of very considerable size; the other, which is smaller, is called Patale. According to the accounts given by the most moderate writers, this river is navigable for a distance of twelve hundred and fifty miles, and after following the sun's course to the west, in some degree, discharges itself into the ocean. I will here give the distances of various places situate on the coast to the mouth of this river, in a general way, just as I find them stated, although they none of them tally with each other.

From the mouth of the Ganges to the Promontory of the Calingi and the town of Dandaguda,[71] is six hundred and twenty-five miles; from thence to Tropina twelve hundred and twenty-five; from thence to the promontory of Perimula, where is held the most celebrated mart in all India, seven hundred and fifty, and from thence to the city of Patala, in the island just mentioned, six hundred and twenty miles.

The mountain races between the Indus and the Jomanes are the Cesi,[72] the Cetriboni, who dwell in the woods, and after them the Megallæ, whose king possesses five hundred elephants, and an army of horse and foot, the numbers of which are unknown; then the Chrysei, the Parasangæ, and the Asmagi,[73] whose territory is infested by wild tigers; these people keep in arms thirty

[68] The modern Jhelum.

[69] Some writers suppose that this must be the same as the Hydraotes, or modern Ravi, because the latter is not otherwise found mentioned in the list given by Pliny. The name, however, leaves but little doubt that Pliny had heard of the Acesines under its Indian name of Chandabragha, and out of it has made another river.

[70] The modern Sutlej.

[71] Probably in the vicinity of the modern Calingapatam; none of the other places seem to be identified.

[72] Ansart suggests that the Cesi may be the same race as the modern Sikhs.

[73] Perhaps the people of modern Ajmere.

thousand foot, three hundred elephants, and eight hundred horse. They are bounded by the river Indus, and encircled by a range of mountains and deserts for a distance of six hundred and twenty-five miles. Below these deserts are the Dari and the Suræ, and then deserts again for one hundred and eighty-seven miles, sands in general encircling these spots just as islands are surrounded by the sea. Below these deserts, again, are the Maltecoræ, the Singæ, the Marohæ, the Rarungæ, and the Morontes. These last peoples, who possess the mountains throughout the whole range of country as far as the shores of the ocean, are free, and independent of all kings, and hold numerous cities upon the declivities of the mountains. After them come the Nareæ,[74] who are bounded by Capitalia, the most lofty of all the Indian peaks: the inhabitants who dwell on the other side of it have extensive mines of gold and silver. After these again are the Oratæ, whose king possesses only ten elephants, but a large army of foot; next come the Suarataratæ, who live under the rule of a king as well, but breed no elephants, as they depend solely on their horse and foot; then the Odonbeores, the Arabastræ, and the Horacæ, which last inhabit a fine city fortified by trenches cut in the marshes. It is quite impossible to approach the city, except by the bridge, as the water in the trenches is full of crocodiles, an animal most insatiate for human flesh. There is another city also in their territory, which has been greatly extolled, Automula by name, situate on the sea-shore, a famous mart, lying at the point of confluence of five rivers: their king possesses sixteen hundred elephants, one hundred and fifty thousand foot, and five thousand horse. The king of the Charmæ is a less opulent potentate; he has only sixty elephants and some small remains of his former strength. After these we come to the nation of the Pandæ,[75] the only one throughout all India which is ruled by women. It is said that Hercules had but one child of the female sex, for which reason she was his especial favourite, and he bestowed upon her the principal one of these kingdoms. The sovereigns who

[74] These peoples are supposed by Hardouin to have occupied the southern parts of the peninsula now known as Bisnagar, Calicut, and the Deccan, with the Malabar and Coromandel coasts.

[75] Hardouin suggests that this people dwelt on the present peninsula of Guzerat.

derive their origin from this female, rule over three hundred towns, and have an army of one hundred and fifty thousand foot, and five hundred elephants. After passing through this list of three hundred cities, we come to the Darangæ,[76] the Posingæ, the Butæ, the Gogaræi, the Umbræ, the Nereæ, the Brancosi, the Nobundæ, the Cocondæ, the Nesei, the Palatitæ, the Salobriasæ, and the Olostræ, who reach up to the island of Patala, from the extremity of whose shores to the Caspian Gates it is a distance of nineteen hundred and twenty-five miles.

After passing this island, the other side of the Indus is occupied, as we know by clear and undoubted proofs, by the Athoæ, the Bolingæ, the Gallitalutæ, the Dimuri, the Megari, the Ardabæ, the Mesæ, and after them, the Uri and the Silæ; beyond which last there are desert tracts, extending a distance of two hundred and fifty miles. After passing these nations, we come to the Organagæ, the Abortæ, the Bassuertæ, and, after these last, deserts similar to those previously mentioned. We then come to the peoples of the Sorofages, the Arbæ, the Marogomatræ, the Umbrittæ, of whom there are twelve nations, each with two cities, and the Asini, a people who dwell in three cities, their capital being Bucephala,[77] which was founded around the tomb of the horse belonging to king Alexander, which bore that name. Above these peoples there are some mountain tribes, which lie at the foot of Caucasus, the Soseadæ and the Sondræ, and, after passing the Indus and going down its stream, the Samarabriæ, the Sambraceni, the Bisambritæ, the Orsi, the Anixeni; and the Taxilæ, with a famous city,[78] which lies on a low but level plain, the general name of the district being Amenda: there are four nations

[76] None of these appear to have been identified; indeed, it appears to be next to impossible, owing to the corrupt state in which they have come down to us.

[77] Built on the Hydaspes by Alexander after his victory over Porus, B.C. 326, at the spot where he had crossed the river before the battle, and in memory of his celebrated charger Bucephalus, who had expired during the battle from fatigue and old age, or from wounds. The exact site of this place is not known, but the probabilities appear in favour of Jhelum, at which place is the usual passage of the river, or else of Jellapoor, about sixteen miles lower down.

[78] Probably the same that is mentioned in c. 21 of the present Book.

here, the Peucolaitæ,[79] the Arsagalitæ, the Geretæ, and the Assoï.

The greater part of the geographers, in fact, do not look upon India as bounded by the river Indus, but add to it the four Satrapies of the Gedrosi,[80] the Arachotæ,[81] the Arii,[82] and the Paropanisidæ,[83] the river Cophes [84] thus forming the extreme boundary of India. All these territories, however, according to other writers, are reckoned as belonging to the country of the Arii. (21.) Many writers, too, place in India the city of Nysa,[85] and the mountain of Merus, sacred to Father Bacchus; in which circumstance[86] originated the story that he sprang from the thigh of Jupiter. They also place here the nation of the Astacani, whose country abounds in the vine, the laurel, the box-tree, and all the fruits which are produced in Greece. As to those wonderful and almost fabulous stories which are related about the fertility of the soil, and the various kinds of fruits and trees, as well as wild beasts, and birds, and other sorts of animals, they shall be mentioned each in its proper

[79] Parisot supposes that these were the inhabitants of the district which now bears the name of Pekheli.

[80] Gedrosia comprehended probably the same district as is now known by the name of Mekran, or, according to some, the whole of modern Beloochistan.

[81] The people of the city and district of Arachotus, the capital of Arachosia. M. Court has identified some ruins on the Argasan river, near Kandahar, on the road to Shikarpur, with those of Arachotus; but Professor Wilson considers them to be too much to the south-east. Colonel Rawlinson thinks they are those to be seen at a place called Ulan Robat. He states that the most ancient name of the city, Cophen, (mentioned by Pliny in c. 25 of the present Book), has given rise to the territorial designation. See p. 57.

[82] The people of Aria, consisting of the eastern part of Khorassan, and the western and north-western part of Afghanistan. This was one of the most important of the eastern provinces or satrapies of the Persian empire.

[83] This was the collective name of several peoples dwelling on the southern slopes of the Hindoo Koosh, and of the country which they inhabited, which was not known by any other name. It corresponded to the eastern part of modern Afghanistan and the portion of the Punjaub lying to the west of the Indus.

[84] It is supposed that the Cophes is represented by the modern river of Kabul.

[85] The place here alluded to was in the district of Goryæa, at the north-western corner of the Punjaub, near the confluence of the rivers Cophen and Choaspes, being probably the same place as Nagara or Dionysopolis, the modern Nagar or Naggar.

[86] The word μήρος, in Greek, signifying a "thigh."

place, in a future portion of this work. I shall also very shortly have to make some further mention of the four Satrapies, it being at present my wish to hasten to a description of the island of Taprobane.

But first there are some other islands of which we must make mention. Patala,[86*] as we have already stated, lies at the mouth of the Indus: it is of a triangular figure, and is two hundred and twenty miles in breadth. Beyond the mouth of the Indus are the islands of Chryse and Argyre,[87] abounding in metals, I believe; but as to what some persons have stated, that their soil consists of gold and silver, I am not so willing to give a ready credence to that. After passing these islands we come to Crocala,[88] twenty miles in breadth, and then, at twelve miles' distance from it, Bibraga,[89] abounding in oysters and other shell-fish. At eight miles' distance from Bibraga we find Toralliba, and many others of no note.

CHAP. 24. (22.)—TAPROBANE.

Taprobane,[90] under the name of the "land of the Antichthones,"[91] was long looked upon as another world: the age and the arms of Alexander the Great were the first to give satisfactory proof that it is an island. Onesicritus, the commander of his fleet, has informed us that the elephants of this island are larger, and better adapted for warfare than those of India; and from Megasthenes we learn that it is divided by a river, that the inhabitants have the name of Palæogoni,[92] and that their

[86*] Supposed by some to have been Lower Scinde, and the vicinity of Kurrachee, with its capital Potala.

[87] Ansart suggests that these may be the Laccadives. Their name means the "gold" and "silver" islands.

[88] Probably an island near the mouths of the Indus.

[89] Probably the same as the Bibacta of Arrian. The present name of it is Chilney Isle.

[90] Although Poinsinet will not admit its identity, it is now universally agreed among the learned that the island of Taprobana is the modern Ceylon. As Gosselin observes, in the accounts said to have been given of Ceylon by the ambassadors to Claudius, great allowance must be made for the wrong interpretation which, owing to their ignorance of the language, the Romans must have given to much of their narrative.

[91] From *ἀντὶ*, "opposite," and *χθών*, "the earth." Its people being supposed to be the *antipodes* of those of Europe.

[92] "The ancient race." As Ansart observes, the island contains a mountain, the name of which is "Adam's" Peak.

country is more productive of gold and pearls of great size than even India. Eratosthenes has also given the dimensions of this island, as being seven thousand stadia in length, and five thousand in breadth: he states also that there are no cities, but villages to the number of seven hundred.[93] It begins at the Eastern sea, and lies extended opposite to India, east and west. This island was in former times supposed to be twenty days' sail from the country of the Prasii,[94] but in later times, whereas the navigation was formerly confined to vessels constructed of papyrus with the tackle peculiar to the Nile, the distance has been estimated at no more than seven days'[95] sail, in reference to the speed which can be attained by vessels of our construction. The sea that lies between the island and the mainland is full of shallows, not more than six paces in depth; but in certain channels it is of such extraordinary depth, that no anchor has ever found a bottom. For this reason it is that the vessels are constructed with prows at either end; so that there may be no necessity for tacking while navigating these channels, which are extremely narrow. The tonnage of these vessels is three thousand amphoræ.[96] In traversing their seas, the people of Taprobane take no observations of the stars, and indeed the Greater Bear[97] is not visible to them; but they carry birds out to sea, which they let go from time to time, and so follow their course as they make for the land. They devote only four months in the year to the pursuits of navigation, and are particularly careful not to trust themselves on the sea during the next hundred days after our summer solstice, for in those seas it is at that time the middle of winter.

[93] Ælian makes the villages to be 750 in number.

[94] A general term probably, as already stated, for the great peninsula of India, below the Ganges.

[95] This expression has been relied upon by those who do not admit that Ceylon is identical with the ancient Taprobana. But it is not improbable that the passage here referred to is from Cape Comorin to Ceylon, and not from Cape Ramanan Cor, the nearest part of the continent. In such case, the distance would be sixty-five or sixty-six leagues, and we can easily conceive that Greek vessels, sailing from nine to ten leagues per day, might occupy seven days in making the passage from Cape Comorin, past Ramanan Cor, to the coasts of Ceylon.

[96] The amphora, as a measure, contained eight congii, or forty-eight sextarii.

[97] Or "Septentrio;" "the Seven Trions," which was more especially employed by the nations of Europe for the purposes of navigation.

Thus much we learn from the ancient writers; it has fallen to our lot, however, to obtain a still more accurate knowledge of these people; for during the reign of the Emperor Claudius, an embassy came from even this distant island to Rome. The circumstances under which this took place were as follow: Annius Plocamus had farmed from the treasury the revenues arising from the Red Sea. A certain freedman of his, while sailing around Arabia, was carried away by a gale from the north beyond the coast of Carmania. In the course of fifteen days he had drifted to Hippuros, a port of Taprobane, where he was most kindly and hospitably received by the king; and having, after a study of six months, become well acquainted with the language, was enabled to answer all his enquiries relative to the Romans and their emperor. But of all that he heard, the king was more particularly struck with surprise at our rigid notions of justice, on ascertaining that among the money found on the captive, the denarii were all of equal weight, although the different figures on them plainly showed that they had been struck in the reigns of several emperors. By this circumstance in especial, the king was prompted to form an alliance with the Romans, and accordingly sent to Rome an embassy, consisting of four persons, the chief of whom was Rachias.[98]

From these persons we learned that in Taprobane there are five hundred towns, and that there is a harbour that lies facing the south, and adjoining the city of Palæsimundus,[99] the most famous city in the isle, the king's place of residence, and containing a population of two hundred thousand. They also informed us that in the interior there is a lake called Megisba, three hundred and seventy-five miles in circumference, and containing islands which are fertile, though for pasturage only. In this lake they informed us two rivers take their rise, one of which, called Palæsimundus, flows into the harbour near the city of that name, by three channels, the narrowest of which is five stadia in width, the largest fifteen; while the other, Cydara by name, takes a direction northward, towards the Indian coast. We learned also

[98] Parisot suggests that the word "Radijah," or "Rajah," denoting the rank which he held, may have been here taken by Pliny for his name.

[99] Ptolemy says that the ancient name of the island was Simundi, or Palæsimundi, but speaks of no such city as the one here mentioned, nor indeed of any other of the localities described by Pliny.

that the nearest point of the Indian coast is a promontory known as Coliacum,[1] distant from the island four days' sail, and that midway between them lies the island of the Sun. They stated also that those seas are of a deep green tint; besides which, there are numerous trees growing at the bottom, so much so, that the rudders of the vessels frequently break off portions of their foliage.[2] They were much astonished at the constellations which are visible to us, the Greater Bear and the Pleiades,[3] as though they had now beheld a new expanse of the heavens; and they declared that in their country the moon can only be seen above the horizon[4] from the eighth to its sixteenth day. They also stated that Canopus, a large bright star, gives light to them by night. But what surprised them more than anything, was that the shadow of their bodies was thrown towards our hemisphere[5] and not theirs, and that the sun arose on the left hand and set on the right, and not in the opposite direction.[6] They also informed us that the side of their island which lies opposite to India is ten thousand stadia in length, and runs in a south-easterly direction—that beyond the Emodian Mountains they look towards[7] the Seræ, whose

[1] It is difficult to say whether by this name is meant the modern Cape Comorin, or that known as Ramanan Cor, which is in reality the nearest point to the coast of Ceylon. Perhaps the latter is meant; in which case it is not improbable that the Island of the Sun will be represented by the islet called Rameserum in the maps, or else the one adjoining called Manaar. It must not be confounded with the Island of the Sun, mentioned in c. 26. See p. 60.

[2] It is not improbable that he alludes to coral reefs.

[3] This assertion Gosselin would either reject as a fabulous falsehood, or as having originated in some misconception on the part of the Romans; for, as he remarks, it is quite impossible that the Pleiades should be a constellation unknown at that time to the people of Ceylon; but, on the other hand, it would be equally true that the Greater Bear was concealed from them.

[4] This was also a fable, or else originated in misapprehension of their language on the part of the Romans.

[5] Gosselin remarks that their story may have been that for about seven months in the year the shadows fell to the north, and during the remaining five to the south, which would not have been inconsistent with the truth.

[6] This also is classed by Gosselin under the head either of fabulous stories or misapprehensions.

[7] "Seras—ab ipsis aspici." It is difficult to say whether this does not mean that they were in sight of the coast of the Seræ. Under any circumstances, the Seræ here spoken of must not be taken for the Seres or

acquaintance they had also made in the pursuits of commerce; that the father of Rachias had frequently visited their country, and that the Seræ always came to meet them on their arrival. These people, they said, exceeded the ordinary human height, had flaxen hair, and blue eyes, and made an uncouth sort of noise by way of talking, having no language of their own for the purpose of communicating their thoughts. The rest of their information[8] was of a similar nature to that communicated by our merchants. It was to the effect that the merchandize on sale was left by them upon the opposite bank of a river on their coast, and it was then removed by the natives, if they thought proper to deal on terms of exchange. On no grounds ought luxury with greater reason to be detested by us, than if we only transport our thoughts to these scenes, and then reflect, what are its demands, to what distant spots it sends in order to satisfy them, and for how mean and how unworthy an end!

But yet Taprobane even, isolated as it is by nature from the rest of the world, is not exempt from our vices. Gold and silver are held in esteem even there. They have a marble which resembles tortoise-shell in appearance; this, as well as their pearls and precious stones, is highly valued; all our luxuries in fact, those even of the most exquisite nature, are there carried to the very highest pitch. They asserted that their wealth is much greater than ours, but admitted that we know better than they how to obtain real enjoyment from opulence.

In this island no slavery exists; they do not prolong their sleep to day-break, nor indeed during any part of the day; their buildings are only of a moderate height from the ground; the price of corn is always the same; they have no courts of law and no litigation. Hercules is the deity whom they worship;

supposed Chinese. Gosselin remarks that under this name the people of a district called Sera are probably referred to, and that in fact such is the name of a city and a whole province at the present day, situate on the opposite coast, beyond the mountains which terminate the plains of the Carnatic. It is equally impossible that under the name of "Emodi" Pliny can allude to the Himalaya chain, distant more than 2000 miles. The mountains, on the verge of the plains of the Carnatic, are not improbably those here referred to, and it is not impossible that they may be discerned from the shores of Ceylon. Gosselin is of opinion that the name of the ancient Seræ may still be traced in that of Seringapatam, and of the city of Seringham, situate on the river Godavery.

[8] Relative to the Seræ, or inhabitants of the opposite shores.

and their king is chosen by the people, an aged man always, distinguished for his mild and clement disposition, and without children. If after he has been elected king, he happens to become the father of children, his abdication is the consequence; this is done that there may be no danger of the sovereign power becoming hereditary. Thirty advisers are provided for him by the people, and it is only by the advice of the majority of them that any man is condemned to capital punishment. Even then, the person so condemned has a right of appealing to the people, in which case a jury consisting of seventy persons is appointed. Should these acquit the accused, the thirty counsellors are no longer held in any estimation, but are visited with the greatest disgrace. The king wears the costume of Father Liber,[9] while the rest of the people dress like the natives of Arabia. The king, if he is found guilty of any offence, is condemned to death; but no one slays him; all turn their backs upon him, and refuse to hold any communication or even discourse with him. Their festivals are celebrated[10] with the chase, the most valued sports being the pursuit of the tiger and the elephant. The lands are carefully tilled; the vine is not cultivated there, but of other fruits there is great abundance. They take great delight in fishing, and especially in catching turtles; beneath the shells[11] of which whole families find an abode, of such vast size are they to be found. These people look upon a hundred years as a comparatively short life. Thus much have we learned respecting Taprobane.

CHAP. 25.—THE ARIANI AND THE ADJOINING NATIONS.

We will now proceed to give some further particulars

[9] Or "Bacchus." This means that he wears a long robe with a train; much like the dress, in fact, which was worn on the stage by tragic actors.

[10] "Festa venatione absumi, gratissimam eam tigribus elephantisque constare." Holland gives this sentence quite a different meaning, fancying that it bears reference to the mode in which the guilty king comes to his end, which, indeed, otherwise does not appear to be stated. "But to doe him to death in the end, they appoint a solemne day of hunting, right pleasant and agreable unto tigres and elephants, before which beasts they expose their king, and so he is presently by them devoured." It is difficult to say, however, where he finds all this.

[11] It is much more probable that they used the shells for the purpose of making roofs for their habitations.

relative to the four Satrapies, of which we have postponed further mention[12] till the present occasion.

(23). After passing the nations in the vicinity of the Indus, we come to the mountain districts. The territory of Capisene formerly had a city, called Capisa,[13] which was destroyed by Cyrus. Arachosia[14] has a river and a city of the same name; the city was built by Semiramis; by some writers it is called Cophen. The river Erymanthus[15] flows past Parabeste,[16] which belongs to the Arachosii. Writers make the Dexendrusi come next, forming the boundary of the Arachotæ on the southern side, and of the Paropanisadæ on the north. The city of Cartana[17] lies at the foot of Caucasus; in later times it has been called Tetragonis.[18] This region lies over against that of the Bactri, who come next, and whose chief city is Alexandria,[19] so called from the name of its founder. We then come to the Syndraci,[20] the

[12] Mentioned already, towards the conclusion of c. 23 of the present Book. See p. 51.

[13] This place was included in the district of the Paropanisus or Hindoo Koosh. It is doubtful whether Pliny is correct in saying that it was destroyed by Cyrus, as we have no reason for supposing that he ever advanced so far to the north-east. It is supposed by some that Capisene represents the valley of the Kabul river, and Capisa the town on the Indus, now known as Peshawar. Lassen, in his researches, has found in the Chinese annals a kingdom called Kiapiche, in the valley of Ghurbend, to the east of Bamian. It is not improbable that Capisa and Kiapiche were different forms of the same name.

[14] See the Notes in p. 50.

[15] The principal river of Drangiana, which rises in the lower range of the Paropanisus or Hindoo Koosh, and enters Lake Zarah. Its present name is Ilmend or Helmend. Burnouf has supposed it to be the same as the Arachotus; but Professor Wilson is of opinion that the Arachotus was one of the tributaries of the Erymanthus or Erymandrus, and probably the modern Arkand-Ab.

[16] Parisot takes the meaning of this word to be "valley," and is of opinion that it is the modern Chabul; not to be confounded, however, with the country of Cabul, to the east of which it is situate.

[17] Now called Birusen, according to Parisot, and not the city of Cabul, as supposed by Hardouin.

[18] Or the "four-cornered city."

[19] This place has not been identified. It has been suggested that it is the same as the modern city of Candahar; but that was really Alexandria of the Paropanisadæ, quite a different place.

[20] Inhabiting the district now called Arassen, according to Parisot.

Dangalæ,[21] the Parapinæ,[22] the Catuces, and the Mazi; and then at the foot of Caucasus, to the Cadrusi, whose town[23] was built by Alexander.

Below all these countries, is the line of coast which we come to after leaving the Indus. Ariana[24] is a region parched by the sun and surrounded by deserts; still, however, as the face of the country is every here and there diversified with well-shaded spots, it finds communities grouped together to cultivate it, and more especially around the two rivers, known as the Tonberos[25] and the Arosapes.[26] There is also the town of Artacoana,[27] and the river Arius,[28] which flows past Alexandria,[29] a city founded by Alexander; this place is thirty stadia in extent. Much more beautiful than it, as well as of much greater antiquity, is Artacabane,[30] fortified a second time by Antiochus, and fifty stadia in breadth. We then come to the nation of the Dorisdorsigi, and the rivers Phar-

[21] Inhabiting the modern Danra, according to Parisot.

[22] Inhabitants of the modern Parasan, according to Parisot.

[23] The modern Candahar is generally supposed to occupy its site.

[24] Pliny is thought to have here confounded the extensive district of Ariana with the smaller province of Aria, which only formed a portion of it. Ariana comprehended nearly the whole of what had been previously ancient Persia.

[25] The river known in modern times as the Ilincut, according to Parisot.

[26] This is supposed by Forbiger to be the modern Arghasan, one of the tributaries of the Helmend. Parisot says that it was the same as the modern Sat.

[27] Supposed to be the same as the "Aria civitas," or "city of Aria" of other authors, which, however, is most probably represented by Alexandria, the modern Herat, situate on the small stream now called the Heri-Rud. At all events, Artacoana (proved by M. Court to be a word of Persian origin —Arde Koun) was, if not the same place, at a very small distance from it. M. Barbie de Bocage is of opinion that it occupied the site of Fushing, a town on the Heri river, one stage from Herat; and by M. Court it is thought to have been at Obeh, near the same place.

[28] Now called the Heri-Rud, which runs to the west of Herat.

[29] It is said that, judging from a traditional verse still current among the people of Herat, that town is believed to unite the claims of the ancient capital built by Alexander the Great, or indeed, more properly, repaired by him, as he was but a short time in Aria. The distance also from the Caspian Gates to Alexandria favours its identification with the modern Herat.

[30] This place does not appear to have been identified.

naracotis,[31] and Ophradus; and then to Prophthasia,[32] a city of the Zaraspades, the Drangæ,[33] the Evergetæ,[34] the Zarangæ, and the Gedrusi;[35] the towns of Pucolis, Lyphorta, the desert of the Methorgi,[36] the river Manais,[37] the nation of the Acutri, the river Eorum, the nation of the Orbi, the Pomanus, a navigable river in the territories of the Pandares, the Apirus in the country of the Suari, with a good harbour at its mouth, the city of Condigramma, and the river Cophes;[38] into which last flow the navigable streams of the Saddaros,[39] the Parospus, and the Sodanus. Some writers will also have it that Daritis[40] forms part of Ariana, and give the length of them both as nineteen hundred and fifty miles, and the breadth one half of that[41] of India. Others again have spread the Gedrusi and the Pasires over an extent of one hundred and thirty-eight miles, and place next to them the Ichthyophagi Oritæ,[42] a people who speak a language peculiar to themselves, and not the Indian dialect, extending over a space of two hundred miles. Alexander forbade the whole of the Ichthyophagi[43] to live any

[31] Ansart suggests that the river Pharnacotis is the same as the modern Ferrichround, and the Ophradus probably the Kouchround.

[32] Ansart suggests that the modern name is Zarang. Parisot says that it is Corcharistan.

[33] The inhabitants of Drangiana, a district at the eastern end of the modern kingdom of Persia, and comprehending part of the present Sejestan or Seistan.

[34] They gave its name to the modern Eudras, according to Parisot.

[35] It is doubtful whether these are the same as the Gedrosi, mentioned by Pliny in c. 23, 24. Parisot censures Hardouin for confounding them, and says that these inhabited the modern Bassar. In Dr. Smith's *Dictionary*, they are looked upon as the same people.

[36] Parisot says that this is the desert region now known as Eremaier, to the east of Mount Maugracot.

[37] As Parisot remarks, our author is now approaching the sea-shore; these places, however, do not appear to have been identified.

[38] Not the same as the river Cophen or Cophes mentioned in c. 24, the modern Kabul. Hardouin takes it to be the same as the Arbis or Arabius of Ptolemy, the modern Hilmend or Ilmend.

[39] Parisot seems to think that the modern names of these rivers are the Sal, the Ghir, and the Ilmentel, which, according to him, flow into the Ilmend.

[40] Situate, according to Ptolemy, in the eastern parts of Media.

[41] For this measurement see c. 21.

[42] Meaning the "Fish-eating Mountaineers." According to Parisot they occupied the site of the modern Dulcidan, and Goadel, which are bounded by mountains, whence the name.

[43] Not only the Oritæ, but all those mentioned in the following Chapter. For further particulars as to the Ichthyophagi, see B. vii. c. 2.

longer on fish. Next after these the writers have placed extensive deserts, and then Carmania, Persia, and Arabia.

CHAP. 26.—VOYAGES TO INDIA.

But before we enter into any details respecting these countries, it will be as well to mention what Onesicritus[44] has stated, who commanded the fleet of Alexander, and sailed from India[45] into the heart of Persia, and what has been more recently related by Juba; after which I shall speak of the route along these seas which has been discovered in later years, and is followed at the present day. The journal of the voyage of Onesicritus and Nearchus has neither the names of the stations, nor yet the distances set down in it; and, first of all, it is not sufficiently explained where Xylenepolis was, and near what river, a place founded by Alexander, and from which, upon setting out, they took their departure. Still, however, the following places are mentioned by them, which are worthy of our notice. The town of Arbis, founded by Nearchus on the occasion of this voyage; the river Nabrus,[46] navigable for vessels, and opposite to it an island, at a distance of seventy stadia; Alexandria, built by Leonnatus[47] by order of Alexander in the territories of this people; Argenus, with a very convenient harbour; the river Tonberos,[48] a navigable stream, around whose banks are the Pasiræ; then come the Ichthyophagi, who extend over so large a tract of coast that it took thirty days[49] to sail past their territory; and an island known by the names of the "Island of the Sun"[50] and the "Bed

[44] See the Notes at the end of this Book.

[45] By descending the Indus, and going up the Persian Gulf.

[46] Near the mouth of the Indus, Hardouin says.

[47] One of Alexander's most distinguished officers, and a native of Pella. He commanded the division of cavalry and light-armed troops which accompanied the fleet of Alexander down the Indus, along the right bank of the river. The Alexandria here mentioned does not appear to have been identified. It is not to be confounded with Alexandria in Arachosia, nor yet with a place of the same name in Carmania, the modern Kerman.

[48] A river Tomerus is spoken of by Arrian as lying between the Indus and the river Arabis or Arbis.

[49] They seem to have dwelt along the shores of the modern Mukran, south of Beloochistan, and probably part of Kerman.

[50] Called Nosala by Arrian. Ansart suggests that it is the island now known by the name of Sengadip. It lay probably off the promontory or headland of the Sun, on the eastern coast of Arabia.

of the Nymphs," the earth of which is red, and in which every animal instantly dies; the cause of which, however, has not been ascertained.[51] Next to these is the nation of the Ori, and then the Hyctanis,[52] a river of Carmania, with an excellent harbour at its mouth, and producing gold; at this spot the writers state that for the first time they caught sight of the Great Bear.[53] The star Arcturus too, they tell us, was not to be seen here every night, and never, when it was seen, during the whole of it. Up to this spot extended the empire of the Achæmenidæ,[54] and in these districts are to be found mines of copper, iron, arsenic, and red lead.

They next came to the Promontory of Carmania,[55] from which the distance across to the opposite coast, where the Macæ, a nation of Arabia, dwell, is fifty miles; and then to three islands, of which that of Oracla[56] is alone inhabited, being the only one supplied with fresh water; it is distant from the mainland twenty-five miles; quite in the Gulf, and facing Persia, there are four other islands. About these islands sea-serpents[57] were seen swimming towards them, twenty cubits in length, which struck the fleet with great alarm. They then came to the island of Athothradus, and those called the Gauratæ, upon which dwells the nation of the Gyani; the river Hyperis,[58] which discharges itself midway into the Persian Gulf, and is navigable for merchant ships; the river

[51] Mela suggests the reason, but gives to the island a different locality—"over against the mouth of the Indus." He says that the air of the island is of such a nature as to take away life instantaneously, and appears to imply that the heat is the cause.

[52] Possibly that now known as the Rud Shur.

[53] Properly the "Seven Trions."

[54] The Persian kings, descendants of Achæmenes. He was said to have been reared by an eagle.

[55] Called the Promontory of Harmozon by Strabo. Hardouin says that the modern name is Cape Jash, but recent writers suggest that it is represented by the modern Cape Bombaruk, nearly opposite Cape Mussendom.

[56] Perhaps the modern Kishon, at the entrance of the Persian Gulf; or that may be one of the four islands next mentioned.

[57] The story of Pontoppidan's Kraken or Korven, the serpent of the Norwegian Seas, is as old as Pliny, we find, and *he* derived his information from older works.

[58] Forbiger has suggested that this may be the same as the modern Djayrah.

Sitiogagus, from which to Pasargadæ[59] is seven days' sail; a navigable river known as the Phristimus, and an island without a name; and then the river Granis,[60] navigable for vessels of small burden, and flowing through Susiane; the Deximontani, a people who manufacture bitumen, dwell on its right bank. The river Zarotis comes next, difficult of entrance at its mouth, except by those who are well acquainted with it; and then two small islands; after which the fleet sailed through shallows which looked very much like a marsh, but were rendered navigable by certain channels which had been cut there. They then arrived at the mouth of the Euphrates, and from thence passed into a lake which is formed by the rivers Eulæus[61] and Tigris, in the vicinity of Charax,[62] after which they arrived at Susa,[62*] on the river Tigris. Here, after a voyage of three months, they found Alexander celebrating a festival, seven months after he had left them at Patale.[63] Such was the voyage performed by the fleet of Alexander.

In later times it has been considered a well-ascertained fact that the voyage from Syagrus,[64] the Promontory of Arabia, to Patale, reckoned at thirteen hundred and thirty-five miles, can be performed most advantageously with the

[59] Mentioned again in c. 29 of the present Book. Its modern name is Pasa or Fasa-Kuri, according to Parisot.

[60] Supposed to be the stream called by D'Anville and Thevenot the Boschavir, the river of Abushir or Busheer.

[61] A river of ancient Susiana, the present name of which is Karun. Pliny states, in c. 31 of the present Book, that the Eulæus flowed round the citadel of Susa; he mistakes it, however, for the Coprates, or, more strictly speaking, for a small stream now called the Shapûr river, the ancient name of which has not been preserved. He is also in error, most probably, in making the river Eulæus flow through Messabatene, it being most likely the present Mah-Sabaden, in Laristan, which is drained by the Kerkbah, the ancient Choaspes, and not by the Eulæus.

[62] Called, for the sake of distinction, Charax Spasinu, originally founded by Alexander the Great. It was afterwards destroyed by a flood, and rebuilt by Antiochus Epiphanes, under the name of Antiochia. It is mentioned in c. 31.

[62*] The Shushan of Scripture, now called Shu. It was the winter residence of the kings of Persia, and stood in the district Cersia of the province Susiana, on the eastern bank of the river Choaspes. The site of Susa is now marked by extensive mounds.

[63] The island of Patala or Patale, previously mentioned in c. 23.

[64] Most probably the Cape Ras-el-Bad, the most easterly peninsula of Arabia.

aid of a westerly wind, which is there known by the name of Hippalus.

The age that followed pointed out a shorter route, and a safer one, to those who might happen to sail from the same promontory for Sigerus, a port of India; and for a long time this route was followed, until at last a still shorter cut was discovered by a merchant, and the thirst for gain brought India even still nearer to us. At the present day voyages are made to India every year: and companies of archers are carried on board the vessels, as those seas are greatly infested with pirates.

It will not be amiss too, on the present occasion, to set forth the whole of the route from Egypt, which has been stated to us of late, upon information on which reliance may be placed, and is here published for the first time. The subject is one well worthy of our notice, seeing that in no year does India drain our empire of less than five hundred and fifty millions[65] of sesterces, giving back her own wares in exchange, which are sold among us at fully one hundred times their prime cost.

Two miles distant from Alexandria is the town of Juliopolis.[66] The distance thence to Coptos, up the Nile, is three hundred and eight miles; the voyage is performed, when the Etesian winds are blowing, in twelve days. From Coptos the journey is made with the aid of camels, stations being arranged at intervals for the supply of fresh water. The first of these stations is called Hydreuma,[67] and is distant[68] twenty-two miles; the second is situate on a mountain, at a distance of one day's journey from the last; the third is at a second Hydreuma,

[65] 35,000,000 francs, according to Ansart, which would amount to £1,400,000 of our money.

[66] Pliny is the only writer that mentions this place among the towns of Lower Egypt. Some suppose it to have been Nicopolis, or the City of Victory, founded by Augustus B.C. 29, partly to commemorate the reduction of Egypt to a Roman province, and partly to punish the Alexandrians for their adhesion to the cause of Antony and Cleopatra. Mannert, however, looks upon it as having been merely that suburb of Alexandria which Strabo (B. xvii.) calls Eleusis.

[67] From the Greek ὕδρευμα, a "watering-place."

[68] From Coptos, the modern Kouft or Keft. Ptolemy Philadelphus, when he constructed the port of Berenice, erected several caravansaries or watering-places between the new city and Coptos. Coptos was greatly enriched by the commerce between Lybia and Egypt on the one hand, and Arabia and India on the other.

distant from Coptos ninety-five miles; the fourth is on a mountain; the next to that is at another Hydreuma, that of Apollo, and is distant from Coptos one hundred and eighty-four miles; after which, there is another on a mountain. There is then another station at a place called the New Hydreuma, distant from Coptos two hundred and thirty miles: and next to it there is another, called the Old Hydreuma, or the Troglodytic, where a detachment is always on guard, with a caravansary that affords lodging for two thousand persons. This last is distant from the New Hydreuma seven miles. After leaving it we come to the city of Berenice,[69] situate upon a harbour of the Red Sea, and distant from Coptos two hundred and fifty-seven miles. The greater part of this distance is generally travelled by night, on account of the extreme heat, the day being spent at the stations; in consequence of which it takes twelve days to perform the whole journey from Coptos to Berenice.

Passengers generally set sail at midsummer, before the rising of the Dog-star, or else immediately after, and in about thirty days arrive at Ocelis[70] in Arabia, or else at Cane,[71] in the region which bears frankincense. There is also a third port of Arabia, Muza[72] by name; it is not, however, used by persons on their passage to India, as only those touch at it who deal in incense and the perfumes of Arabia. More in the interior there is a city; the residence of the king there is called Sapphar,[73] and there is another city known by the name of Save. To those who are bound for India, Ocelis is the best

[69] Belzoni found traces of several of the stations here mentioned. The site of Berenice, as ascertained by Moresby and Carless, 1830-3, was nearly at the bottom of the inlet known as the Sinus Immundus, or Foul Bay. Its ruins still exist.

[70] Now called Gehla, a harbour and emporium at the south-western point of Arabia Felix.

[71] An emporium or promontory on the southern coast of Arabia, in the country of the Adramitæ, and, as Arrian says, the chief port of the increase-bearing country. It has been identified by D'Anville with Cava Canim Bay, near a mountain called Hissan Ghorab, at the base of which there are ruins to be seen.

[72] Probably the modern Mosch, north of Mokha, near the southern extremity of Arabia Felix.

[73] Its ruins are now known as Dhafar. It was one of the chief cities of Arabia, standing near the southern coast of Arabia Felix, opposite the modern Cape Guardafui.

place for embarcation. If the wind, called Hippalus,[74] happens to be blowing, it is possible to arrive in forty days at the nearest mart of India, Muziris[75] by name. This, however, is not a very desirable place for disembarcation, on account of the pirates which frequent its vicinity, where they occupy a place called Nitrias; nor, in fact, is it very rich in articles of merchandize. Besides, the road-stead for shipping is a considerable distance from the shore, and the cargoes have to be conveyed in boats, either for loading or discharging. At the moment that I am writing these pages, the name of the king of this place is Cælobothras. Another port, and a much more convenient one, is that which lies in the territory of the people called Neacyndi, Barace by name. Here king Pandion used to reign, dwelling at a considerable distance from the mart in the interior, at a city known as Modiera. The district from which pepper is carried down to Barace in boats hollowed out of a single tree,[76] is known as Cottonara.[77] None of these names of nations, ports, and cities are to be found in any of the former writers, from which circumstance it would appear that the localities have since changed their names. Travellers set sail from India on their return to Europe, at the beginning of the Egyptian month Tybis, which is our December, or at all events before the sixth day of the Egyptian month Mechir, the same as[78] our ides of January: if they do this, they can go and return in the same year. They set sail from India with a south-east wind, and upon entering the Red Sea, catch the south-west or south. We will now return to our main subject.

[74] Or Favonius, the west wind, previously mentioned in the present Chapter.

[75] The modern Mangalore, according to Du Bocage.

[76] Or canoes.

[77] The Cottiara of Ptolemy, who makes it the chief city of the Æi, a tribe who occupied the lower part of the peninsula of Hindostan. It has been supposed to be represented by the modern Calicut or Travancore. Cochin, however, appears to be the most likely.

[78] Marcus observes that we may conclude that either Pliny or the author from whom he transcribed, wrote this between the years of the Christian era 48 and 51; for that the coincidence of the 6th of the month Mechir with the Ides of January, could not have taken place in any other year than those on which the first day of Thoth or the beginning of the year fell on the 11th of August, which happened in the years 48, 49, 50, and 51 of the Christian era.

CHAP. 27.—CARMANIA.

Nearchus states in his writings that the coast of Carmania[79] extends a distance of twelve hundred and fifty miles. From its frontier to the river Sabis[80] is one hundred miles. At this spot begins the cultivation of the vine; which with the tillage of the fields, extends as far as the river Ananis,[81] a distance of twenty-five miles. This region is known by the name of Armuzia. The cities of Carmania are Zetis and Alexandria.[82]

CHAP. 28.—THE PERSIAN AND THE ARABIAN GULFS.

The sea then makes a two-fold indentation[83] in the land upon these coasts, under the name of Rubrum[84] or "Red," given to it by our countrymen; while the Greeks have called it Erythrum, from king Erythras,[85] or, according to some writers, from its red colour, which they think is produced by the reflection of the sun's rays; others again are of opinion that it arises from the sand and the complexion of the soil, others from some peculiarity in the nature of the water. (24.) Be this as it may, this body of water is divided into two gulfs. The one which lies to the east is called the Persian Gulf, and is two thousand five hundred miles in circumference, according to Eratosthenes. Opposite to it lies Arabia, the length of which is fifteen hundred miles. On the other side again, Arabia is bounded by the Arabian Gulf. The sea as it enters

[79] An extensive province of Asia, along the northern shores of the Persian Gulf, supposed to have comprehended the coast-line of the modern Laristan, Kirman, and Moghostan.

[80] Ptolemy mentions an inland town of Carmania of the same name.

[81] Supposed to be that known now as the Ibrahim Rud, which falls into the Persian Gulf.

[82] These sites are unknown.

[83] Forms two bays or gulfs in succession.

[84] He gives this name to the whole expanse of sea that lies between Arabia and Africa on the west, and India on the east, including the Red Sea and the Persian Gulf.

[85] Or Erythrus. In all probability entirely a mythical personage. The sea having been called in Greek ἐρυθραῖα, or "red"—the legend most probably thence took its rise. No very satisfactory reason has yet been given for its being so called. The Hebrew name of it signifies the "Sedgy Sea."

this gulf is called the Azanian[86] Sea. The Persian Gulf, at the entrance, is only five[87] miles wide; some writers make it four. From the entrance to the very bottom of the gulf, in a straight line, has been ascertained to be nearly eleven hundred and twenty-five miles: in outline it strongly resembles[88] the human head. Onesicritus and Nearchus have stated in their works that from the river Indus to the Persian Gulf, and from thence to Babylon, situate in the marshes of the Euphrates, is a distance of seventeen hundred miles.

In the angle of Carmania are the Chelonophagi,[89] who cover their cabins with the shells of turtles, and live upon their flesh; these people inhabit the next promontory that is seen after leaving the river Arbis;[90] with the exception of the head, they are covered all over with long hair, and are clothed in the skins of fishes.

(25.) Beyond their district, in the direction of India, is said to be the desert island of Caicandrus, fifty miles out at sea; near to which, with a strait flowing between them, is Stoidis, celebrated for its valuable pearls. After passing the promontory[91] are the Armozei,[92] joining up to the Carmani; some writers, however, place between them the Arbii,[93] extending along the shore a distance of four hundred and twenty-one miles. Here is a place called Portus Macedonum,[94] and the Altars of Alexander, situate on a promontory, besides the rivers Saganos, Daras, and Salsa. Beyond the last river we come to the promontory of Themisteas, and the island of Aphrodisias, which is peopled. Here Persis begins, at the river Oratis,[95] which

[86] From Azania in Æthiopia, mentioned again in c. 34 of the present Book.

[87] The maps appear to make it considerably more.

[88] The only feature of resemblance appears to be its comparative narrowness at the neck.

[89] Or "turtle-eaters."

[90] Different probably from the Cophis mentioned in c. 25, which was also called Arabius or Arbis, and probably represented by the modern Purali.

[91] Of Harmozon, probably the modern Bombareek.

[92] Their district is supposed to denote the vicinity of the modern Ormuz, an island off this coast, which is now known as Moghostan.

[93] Taking their name probably from the river Arbis, previously mentioned.

[94] The "Port of the Macedonians."

[95] Now the Tab, falling into the Persian Gulf.

separates it from Elymais.[96] Opposite to the coast of Persis, are the islands of Psilos, Cassandra, and Aracia, the last sacred to Neptune,[97] and containing a mountain of great height. Persis[98] itself, looking towards the west, has a line of coast five hundred and fifty miles in length; it is a country opulent even to luxury, but has long since changed its name for that of "Parthia."[99] I shall now devote a few words to the Parthian empire.

CHAP. 29.—THE PARTHIAN EMPIRE.

The kingdoms[1] of Parthia are eighteen in all: such being the divisions of its provinces, which lie, as we have already stated, along the Red Sea to the south, and the Hyrcanian to the north. Of this number the eleven, called the Higher provinces, begin at the frontiers of Armenia and the shores of the Caspian, and extend to the Scythians, whose mode of life is similar in every respect. The other seven kingdoms of Parthia bear the name of the Lower provinces. As to the Parthi themselves, Parthia[2] always lay at the foot of the mountains[3] so often mentioned, which overhang all these nations. On the east it is bounded by the Arii, on the south by Carmania and the Ariani, on the west by the Pratitæ, a people of the Medi, and on the north by the Hyrcani: it is surrounded by deserts on every side. The more distant of the Parthi are called Nomades;[4] on this side of them there are deserts. On the

[96] A district of Susiana, extending from the river Eulæus on the west, to the Oratis on the east, deriving its name perhaps from the Elymæi, or Elymi, a warlike people found in the mountains of Greater Media. In the Old Testament this country is called Elam.

[97] Ptolemy says that this last bore the name of "Alexander's Island."

[98] Persis was more properly a portion only or province of the ancient kingdom of Persia. It gave name to the extensive Medo-Persian kingdom under Cyrus, the founder of the Persian empire, B.C. 559.

[99] The Parthi originally inhabited the country south-east of the Caspian, now Khorassan. Under Arsaces and his descendants, Persis and the other provinces of ancient Persia became absorbed in the great Parthian empire. Parthia, with the Chorasmii, Sogdii, and Arii, formed the sixteenth satrapy under the Persian empire. See c. 16 of this Book.

[1] The provinces of Parthia have been already mentioned in detail in the preceding Chapters, except Susiana and Elymais, which are mentioned in c. 31.

[2] The original Parthia, the modern Khorassan.

[3] The so-called Caucasian chain. See c. 16 of the present Book.

[4] Or "Wandering Parthians," lying far to the east.

west are the cities of Issatis and Calliope, already mentioned,[5] on the north-east Europus,[6] on the south-east Maria; in the middle there are Hecatompylos,[7] Arsace, and Nisiæa, a fine district of Parthiene, in which is Alexandropolis, so called from its founder.

(26.) It is requisite in this place to trace the localities of the Medi also, and to describe in succession the features of the country as far as the Persian Sea, in order that the account which follows may be the better understood. Media[8] lies crosswise to the west, and so presenting itself obliquely to Parthia, closes the entrance of both kingdoms[9] into which it is divided. It has, then, on the east, the Caspii and the Parthi; on the south, Sittacene, Susiane, and Persis; on the west, Adsiabene; and on the north, Armenia. The Persæ have always inhabited the shores of the Red Sea, for which reason it has received the name of the Persian Gulf. This maritime region of Persis has the name of Ciribo;[10] on the side on which it runs up to that of the Medi, there is a place known by the name of Climax Megale,[11] where the mountains are ascended by a steep flight of stairs, and so afford a narrow passage which leads to Persepolis,[12] the former capital of the kingdom, destroyed by

[5] In c. 17 of the present Book.

[6] Not to be confounded with the place in Atropatene, mentioned in c. 21 of the present Book.

[7] It has been supposed that the modern Damgham corresponds with this place, but that is too near the Portæ Caspiæ. It is considered most probable that the remains of Hecatompylos ought to be sought in the neighbourhood of a place now known as Jah Jirm. It is mentioned in c. 17 and 21 of the present Book.

[8] Media occupied the extreme west of the great table-land of the modern Iran. It corresponded very nearly to the modern province of Irak-Ajemi.

[9] The Upper and the Lower, as already mentioned.

[10] Hardouin suggests that this should be Syrtibolos. His reasons for so thinking will be found alluded to in a note to c. 31. See p. 80, Note 98.

[11] Or the "Great Ladder." The Baron de Bode states, in his *Travels in Luristan and Arabistan*, that he discovered the remains of a gigantic causeway, in which he had no difficulty in recognizing one of the most ancient and most mysterious monuments of the East. This causeway, which at the present day bears the name of Jaddehi-Atabeg, or the "road of the Atabegs," was looked upon by several historians as one of the wonders of the world, who gave it the name of the Climax Megale or "Great Ladder." At the time even of Alexander the Great the name of its constructor was unknown.

[12] Which was rebuilt after it was burnt by Alexander, and in the

Alexander. It has also, at its extreme frontier, Laodicea,[13] founded by Antiochus. To the east of this place is the fortress of Passagarda,[14] held by the Magi, at which spot is the tomb of Cyrus; also Ecbatana,[15] a city of theirs, the inhabitants of which were removed by Darius to the mountains. Between the Parthi and the Ariani projects the territory of the Parætaceni.[16] By these nations and the river Euphrates are the Lower kingdoms of Parthia bounded; of the others we shall speak after Mesopotamia, which we shall now describe, with the exception of that angle of it and the peoples of Arabia, which have been already mentioned in a former book.[17]

CHAP. 30.—MESOPOTAMIA.

The whole of Mesopotamia formerly belonged to the Assyrians, being covered with nothing but villages, with the exception of Babylonia[18] and Ninus.[19] The Macedonians

middle ages had the name of Istakhar; it is now called Takhti Jemsheed, the throne of Jemsheed, or Chil-Minar, the Forty Pillars. Its foundation is sometimes ascribed to Cyrus the Great, but more generally to his son, Cambyses. The ruins of this place are very extensive.

[13] Its site is unknown; but Dupinet translates it the "city of Lor."

[14] The older of the two capitals of Persia, Persepolis being the later one. It was said to have been founded by Cyrus the Great, on the spot where he gained his victory over Astyages. Its exact site is doubtful, but most modern geographers identify it with Murghab, to the north-east of Persepolis, where there are the remains of a great sepulchral monument of the ancient Persians, probably the tomb of Cyrus. Others place it at Farsa or at Dorab-Gherd, both to the south-east of Persepolis, the direction mentioned by Strabo, but not in other respects answering his description so well as Murghab.

[15] It is most probable that he does not allude here to the Ecbatana, mentioned in c. 17 of this Book.

[16] There were several mountainous districts called Parætacene in the Persian empire, that being the Greek form of a Persian word signifying "mountainous."

[17] In B. v. c. 21. He returns to the description of Susiana, Elymaïs, and Characene in c. 31 of the present Book.

[18] The great seat of empire of the Babylonio-Chaldæan kingdom. It either occupied the site, it is supposed, or stood in the immediate vicinity of the tower of Babel. In the reign of Labynedus, Nabonnetus, or Belshazzar, it was taken by Cyrus. In the reign of Augustus, a small part only of Babylon was still inhabited, the remainder of the space within the walls being under cultivation. The ruins of Babylon are found to commence a little south of the village of Mohawill, eight miles north of Hillah.

[19] Nineveh. See c. 16 of the present Book.

formed these communities into cities, being prompted thereto by the extraordinary fertility of the soil. Besides the cities already mentioned, it contains those of Seleucia,[20] Laodicea,[21] Artemita;[22] and in Arabia, the peoples known as the Orei[23] and the Mardani, besides Antiochia,[24] founded by Nicanor, the governor of Mesopotamia, and called Arabis. Joining up to these in the interior is an Arabian people, called the Eldamani, and above them, upon the river Pallaconta, the town of Bura, and the Arabian peoples known as the Salmani and the Masei. Up to the Gordyæi[25] join the Aloni, through whose territory runs the river Zerbis, which falls into the Tigris; next are the Azones, the Silici, a mountain tribe, and the Orontes, to the west of whom lies the town of Gaugamela,[26] as also Suë, situate upon the rocks. Beyond these are the Silici, surnamed Classitæ, through whose district runs the river Lycus on its passage from Armenia, the Absithris[27] running south-east, the town of Accobis, and then in the plains the towns of Diospage, Polytelia,[28] Stratonice, and Anthermis.[29] In the vicinity of the Euphrates is Nicephorion, of which we have[30] already stated that Alexander, struck with

[20] On the left bank of the Euphrates, opposite to the ford of Zeugma; a fortress of considerable importance.

[21] Its site is unknown. Dupinet confounds it with the place of this name mentioned in the last Chapter, calling them by the name of Lor.

[22] Pliny is wrong in placing Artemita in Mesopotamia. It was a city of Babylonia, in the district of Apolloniatis. The modern Sherbân is supposed to occupy its site.

[23] Burnouf, having found the name of these people, as he supposes, in a cuneiform inscription, written "Ayura," would have them to be called Aroei. The Orei are also mentioned in B. v. c. 20.

[24] This Antioch does not appear to have been identified.

[25] The mountains of the Gordyæi are mentioned in c. 12.

[26] This, as previously mentioned in a Note to c. 16, was the scene of the last great battle between Alexander and Darius, and known as the battle of Arbela. It has been suggested that it may perhaps be represented by a place now called Karnelis. See p. 27.

[27] According to Ansart, now called the Lesser Zab, and by the inhabitants the Altun-su, meaning the "Golden river."

[28] According to Parisot, the modern name is Calicala.

[29] Strabo speaks of the Aborras, or modern Khabur, as flowing in the vicinity of Anthemusia, the district probably in which the town of Anthermis was situate. According to Isidorus of Charax, it lay between Edessa and the Euphrates. Its site does not appear to have been any further identified. It is called Anthemusia in B. v. c. 21.

[30] In B. v. c. 21.

the favourable situation of the spot, ordered it to be built. We have also similarly made mention[31] of Apamea on the Zeugma. Leaving that city and going eastward, we come to Caphrena, a fortified town, formerly seventy stadia in extent, and called the "Court of the Satraps." It was to this place that the tribute was conveyed; now it is reduced to a mere fortress. Thæbata is still in the same state as formerly: after which comes Oruros, which under Pompeius Magnus formed the extreme limit of the Roman Empire, distant from Zeugma two hundred and fifty miles. There are writers who say that the Euphrates was drawn off by an artificial channel by the governor Gobares, at the point where we have stated[32] that it branches off,[33] in order that it might not commit damage in the city of Babylonia, in consequence of the extreme rapidity of its course. The Assyrians universally call this river by the name of Narmalcha,[34] which signifies the "royal river." At the point where its waters divide, there was in former times a very large city, called Agranis, which the Persæ have destroyed.

Babylon, the capital of the nations of Chaldæa, long enjoyed the greatest celebrity of all cities throughout the whole world: and it is from this place that the remaining parts of Mesopotamia and Assyria received the name of Babylonia. The circuit of its walls, which were two hundred feet in height, was sixty miles. These walls were also fifty feet in breadth, reckoning to every foot three fingers' breadth beyond the ordinary measure of our foot. The river Euphrates flowed through the city, with quays of marvellous workmanship erected on either side. The temple there[35] of Jupiter Belus[36] is still in existence; he was the first

[31] In B. v. c. 21.

[32] In B. v. c. 21.

[33] This canal, leading from the Euphrates to the Tigris, is by some thought, according to Hardouin, to have been the river Chobar, mentioned in Ezekiel, c. i. v. 3.

[34] For Arar-Melik, meaning the "River King," according to Parisot.

[35] As to the identity of this, see a Note at the beginning of this Chapter.

[36] Meaning Jupiter Uranius, or "Heavenly Jupiter," according to Parisot, who observes that Eusebius interprets *baal*, or *bel*, "heaven." According to one account, he was the father of king Ninus and son of Nimrod. The Greeks in later times attached to his name many of their legendary fables.

inventor of the science of Astronomy. In all other respects it has been reduced to a desert, having been drained of its population in consequence of its vicinity to Seleucia,[37] founded for that purpose by Nicator, at a distance of ninety miles, on the confluence of the Tigris and the canal that leads from the Euphrates. Seleucia, however, still bears the surname of Babylonia: it is a free and independent city, and retains the features of the Macedonian manners. It is said that the population of this city amounts to six hundred thousand, and that the outline of its walls resembles an eagle with expanded wings: its territory, they say, is the most fertile in all the East. The Parthi again, in its turn, founded Ctesiphon,[38] for the purpose of drawing away the population of Seleucia, at a distance of nearly three miles, and in the district of Chalonitis; Ctesiphon is now the capital of all the Parthian kingdoms. Finding, however, that this city did not answer the intended purpose, king Vologesus[39] has of late years founded another city in its vicinity, Vologesocerta[40] by name. Besides the above, there are still the following towns in Mesopotamia: Hipparenum,[41] rendered famous, like Babylon, by the learning of

[37] The city of Seleucia ad Tigrin, long the capital of Western Asia, until it was eclipsed by Ctesiphon. Its site has been a matter of considerable discussion, but the most probable opinion is, that it stood on the western bank of the Tigris, to the north of its junction with the royal canal (probably the river Chobar above mentioned), opposite to the mouth of the river Delas or Silla (now Diala), and to the spot where Ctesiphon was afterwards built by the Parthians. It stood a little to the south of the modern city of Baghdad; thus commanding the navigation of the Tigris and Euphrates, and the whole plain formed by those two rivers.

[38] Ammianus, like Pliny, has ascribed its foundation to the Parthians under Varanes, or Vardanes, of whom, however, nothing is known. It stood in the south of Assyria, on the eastern or left bank of the Tigris. Strabo speaks of it as being the winter residence of the Parthian kings, who lived there at that season, owing to the mildness of the climate. In modern times the site of this place has been identified with that called by the Arabs Al Madain, or the "two cities."

[39] Or Vologeses. This was the name of five kings of Parthia, of the race of the Arsacidæ, Arsaces XXIII., XXVII., XXVIII., XXIX., XXX. It was the first of these monarchs who founded the place here mentioned by Pliny.

[40] Or the "City of Vologesus;" *certa* being the Armenian for "city."

[41] Nothing appears to be known of this place; but Hardouin thinks that it is the same with one called Maarsares by Ptolemy, and situate on the same river Narraga.

the Chaldæi, and situate near the river Narraga,[42] which falls into the Narroga, from which a city so called has taken its name. The Persæ destroyed the walls of Hipparenum. Orchenus also, a third place of learning of the Chaldæi, is situate in the same district, towards the south; after which come the Notitæ, the Orothophanitæ, and the Grecichartæ.[43] From Nearchus and Onesicritus we learn that the distance by water from the Persian Sea to Babylon, up the Euphrates, is four hundred and twelve miles; other authors, however, who have written since their time, say that the distance to Seleucia is four hundred and forty miles: and Juba says that the distance from Babylon to Charax is one hundred and seventy-five. Some writers state that the Euphrates continues to flow with an undivided channel for a distance of eighty-seven miles beyond Babylon, before its waters are diverted from their channel for the purposes of irrigation; and that the whole length of its course is not less than twelve hundred miles. The circumstance that so many different authors have treated of this subject, accounts for all these variations, seeing that even the Persian writers themselves do not agree as to what is the length of their *schæni* and *parasangæ*, each assigning to them a different length.

When the Euphrates ceases, by running in its channel, to afford protection[44] to those who dwell on its banks, which it does when it approaches the confines of Charax, the country is immediately infested by the Attali, a predatory people of Arabia, beyond whom are found the Scenitæ.[45] The banks along this river are occupied by the Nomades of Arabia, as far as the deserts of Syria, from which, as we have already stated,[46] it takes a turn to the south,[47] and leaves the solitary deserts of Palmyra. Seleucia is distant, by way of the Euphrates, from the beginning of Mesopotamia, eleven hundred and twenty-

[42] Parisot says that this river is the one set down in the maps as falling into the Tigris below its junction with the Euphrates, and near the mouths of the two rivers. He says that near the banks of it is marked the town of Nabrahan, the Narraga of Pliny.

[43] There is great doubt as to the correct spelling of these names.

[44] Against the attacks of robbers dwelling on the opposite side; the Attali, for instance.

[45] Or "dwellers in tents," Bedouins, as we call them.

[46] B. v. c. 20 and 21

[47] Towards Mahamedieh.

five; from the Red Sea, by way of the Tigris, two hundred and twenty; and from Zeugma, seven hundred and twenty-three, miles. Zeugma is distant from Seleucia[48] in Syria, on the shores of our sea, one hundred and seventy-five[49] miles. Such is the extent of the land that lies in these parts between the two seas.[50] The length of the kingdom of Parthia is nine hundred and eighteen miles.

CHAP. 31.—THE TIGRIS.

There is, besides the above, another town in Mesopotamia, on the banks of the Tigris and near its confluence with the Euphrates, the name of which is Digba.[51] (27.) But it will be as well now to give some particulars respecting the Tigris itself. This river rises in the region of Greater Armenia,[52] from a very remarkable source, situate on a plain. The name of the spot is Elegosine,[53] and the stream, as soon as it begins to flow, though with a slow current, has the name of Diglito.[54] When its course becomes more rapid, it assumes the name of Tigris,[55] given to it on account of its swiftness, that word signifying an arrow in the Median language. It then flows into Lake Arethusa,[56] the waters of which are able to

[48] Near Antioch and the Orontes: now Seleukeh, or Kepse, near Suadeiah.

[49] See B. v. c. 13.

[50] The Mediterranean and the Red Sea; the latter including the modern Red Sea and the Persian Gulf.

[51] Forbiger is of opinion that this is the same as the Didigua or Didugua of Ptolemy. It was situate below Alpamea. D'Anville takes it to be the modern Corna.

[52] The modern Turcomania.

[53] Now known as the Plain of Chelat, according to Parisot, extending between Chelat, a city situate on a great lake and the river Rosso, falling into the Caspian Sea.

[54] Called Diglith by Josephus. Hardouin states that in his time the name given to the river by the natives was Daghela. This name is also supposed to be another form of the Hiddekel of Scripture. See Genesis ii. 14.

[55] According to Bochart, this was a corruption of the Eastern name Deghel, from which were derived the forms Deger, Teger, and ultimately Tigris.

[56] Ritter has identified this with the modern lake Nazuk, in Armenia, about thirteen miles in length and five in breadth. The water at the present day is said to be sweet and wholesome.

support all weighty substances thrown into them, and exhale nitrous vapours. This lake produces only one kind of fish, which, however, never enter the current of the river in its passage through the lake: and in a similar manner, the fish of the Tigris will never swim out of its stream into the waters of the lake. Distinguishable from the lake, both by the rapidity and the colour of its waters, the tide of the river is hurried along; after it has passed through and arrived at Mount Taurus, it disappears[57] in a cavern of that mountain, and passing beneath it, bursts forth on the other side; the spot bears the name of Zoroande.[58] That the waters on either side of the mountain are the same, is evident from the fact, that bodies thrown in on the one side will reappear on the other. It then passes through another lake, called Thospites, and once more burying itself in the earth, reappears, after running a distance of twenty-two miles, in the vicinity of Nymphæum.[59] Claudius Cæsar informs us that, in the district of Arrene[60] it flows so near to the river Arsanias,[61] that when their waters swell they meet and flow together, but without, however, intermingling. For those of the Arsani, as he says, being lighter, float on the surface of the Tigris for a distance of nearly four miles, after which they separate, and the Arsanias flows into the Euphrates. The Tigris, after flowing through Armenia and receiving the well-known rivers Parthenias and Nicephorion, separates the Arabian Orei[62] from the Adiabeni, and then forms by its course, as previously mentioned, the country of Mesopotamia. After traversing the mountains of the Gordyæi,[63] it passes round Apamea,[64] a town of Mesene, one

[57] Seneca, however, in his *Quæst. Nat.* B. vi., represents the Tigris here as gradually drying up and becoming gradually smaller, till it disappears.

[58] This spot is considered by Parisot to be the modern city of Betlis.

[59] A spot where liquid bitumen or naphtha was found.

[60] Or probably Arzarene, a province of the south of Armenia, situate on the left bank of the Tigris. It derived its name from the lake Arsene, or the town Arzen, situate on this lake. It is comprehended in the modern Pashalik of Dyár Bekr.

[61] Now called the Myrád-chaï. See B. v. c. 24. Ritter considers it to be the southern arm of the Euphrates.

[62] Or Aroei, as Littré suggests. See Note to c. 30 in p. 71.

[63] See c. 17 of the present Book.

[64] The site of this place seems to be unknown. It has been remarked that it is difficult to explain the meaning of this passage of Pliny, or to determine the probable site of Apamea.

hundred and twenty-five miles on this side of Babylonian Seleucia, and then divides into two channels, one[65] of which runs southward, and flowing through Mesene, runs towards Seleucia, while the other takes a turn to the north and passes through the plains of the Cauchæ,[66] at the back of the district of Mesene. When the waters have reunited, the river assumes the name of Pasitigris. After this, it receives the Choaspes,[67] which comes from Media; and then, as we have already stated,[68] flowing between Seleucia and Ctesiphon, discharges itself into the Chaldæan Lakes, which it supplies for a distance of seventy miles. Escaping from them by a vast channel, it passes the city of Charax to the right, and empties itself into the Persian Sea, being ten miles in width at the mouth. Between the mouths of the two rivers Tigris and the Euphrates, the distance was formerly twenty-five, or, according to some writers, seven miles only, both of them being navigable to the sea. But the Orcheni and others who dwell on its banks, have long since dammed up the waters of the Euphrates for the purposes of irrigation, and it can only discharge itself into the sea by the aid of the Tigris.

The country on the banks of the Tigris is called Parapotamia;[69] we have already made mention of Mesene, one of its districts. Dabithac[70] is a town there, adjoining to which is

[65] Hardouin remarks that this is the right arm of the Tigris, by Stephanus Byzantinus called Delas, and by Eustathius Sylax, which last he prefers.

[66] According to Ammianus, one of the names of Seleucia on the Tigris was Coche.

[67] A river of Susiana, which, after passing Susa, flowed into the Tigris, below its junction with the Euphrates. The indistinctness of the ancient accounts has caused it to be confused with the Eulæus, which flows nearly parallel with it into the Tigris. It is pretty clear that they were not identical. Pliny here states that they were different rivers, but makes the mistake below, of saying that Susa was situate upon the Eulæus, instead of the Choaspes. These errors may be accounted for, it has been suggested, by the fact that there are two considerable rivers which unite at Bund-i-Kir, a little above Ahwaz, and form the ancient Pasitigris or modern Karun. It is supposed that the Karun represents the ancient Eulæus, and the Kerkhah the Choaspes.

[68] In c. 26 of the present Book. The custom of the Persian kings drinking only of the waters of the Eulæus and Choaspes, is mentioned in B. xxxi. c. 21.

[69] Or the country "by the river."

[70] Pliny is the only writer who makes mention of this place. Parisot

the district of Chalonitis, with the city of Ctesiphon,[71] famous, not only for its palm-groves, but for its olives, fruits, and other shrubs. Mount Zagrus[72] reaches as far as this district, and extends from Armenia between the Medi and the Adiabeni, above Parætacene and Persis. Chalonitis[73] is distant from Persis three hundred and eighty miles; some writers say that by the shortest route it is the same distance from Assyria and the Caspian Sea.

Between these peoples and Mesene is Sittacene, which is also called Arbelitis[74] and Palæstine. Its city of Sittace[75] is of Greek origin; this and Sabdata[76] lie to the east, and on the west is Antiochia,[77] between the two rivers Tigris and Tornadotus,[78] as also Apamea,[79] to which Antiochus[80] gave this name, being that of his mother. The Tigris surrounds this city, which is also traversed by the waters of the Archoüs.

is of opinion that it is represented by the modern Digil-Ab, on the Tigris, and suggests that Digilath may be the correct reading.

[71] Mentioned in the last Chapter.

[72] Now called the Mountains of Luristan.

[73] The name of the district of Chalonitis is supposed to be still preserved in that of the river of Holwan. Pliny is thought, however, to have been mistaken in placing the district on the river Tigris, as it lay to the east of it, and close to the mountains.

[74] From Arbela, in Assyria, which bordered on it.

[75] A great and populous city of Babylonia, near the Tigris, but not on it, and eight parasangs within the Median wall. The site is that probably now called Eski Baghdad, and marked by a ruin called the Tower of Nimrod. Parisot cautions against confounding it with a place of a similar name, mentioned by Pliny in B. xii. c. 17, a mistake into which, he says, Hardouin has fallen.

[76] Now called Felongia, according to Parisot. Hardouin considers it the same as the Sambana of Diodorus Siculus, which Parisot looks upon as the same as Ambar, to the north of Felongia.

[77] Of this Antiochia nothing appears to be known. By some it has been supposed to be the same with Apollonia, the chief town of the district of Apolloniatis, to the south of the district of Arbela.

[78] Also called the Physcus, the modern Ordoneh, an eastern tributary of the Tigris in Lower Assyria. The town of Opis stood at its junction with the Tigris.

[79] D'Anville supposes that this Apamea was at the point where the Dijeil, now dry, branched off from the Tigris, which bifurcation he places near Samurrah. Lynch, however, has shown that the Dijeil branched off near Jibbarah, a little north of 34° North lat., and thinks that the Dijeil once swept the end of the Median wall, and flowed between it and Jebbarah. Possibly this is the Apamea mentioned by Pliny in c. 27.

[80] The son of Seleucus Nicator.

Below[81] this district is Susiane, in which is the city of Susa,[82] the ancient residence of the kings of Persia, built by Darius, the son of Hystaspes; it is distant from Seleucia Babylonia four hundred and fifty miles, and the same from Ecbatana of the Medi, by way of Mount Carbantus.[83] Upon the northern channel of the river Tigris is the town of Babytace,[84] distant from Susa one hundred and thirty-five miles. Here, for the only place in all the world, is gold held in abhorrence; the people collect it together and bury it in the earth, that it may be of use to no one.[85] On the east of Susiane are the Oxii, a predatory people, and forty independent savage tribes of the Mizæi. Above these are the Mardi and the Saitæ, subject to Parthia: they extend above the district of Elymais, which we have already mentioned[86] as joining up to the coast of Persis. Susa is distant two hundred and fifty miles from the Persian Sea. Near the spot where the fleet of Alexander came up[87] the Pasitigris to Susa, there is a village situate on the Chaldæan Lake, Aple by name, from which to Susa is a distance of sixty miles and a half. Adjoining to the people of Susiane, on the east, are the Cossiæi;[88] and above them, to the north, is Mesabatene, lying at the foot of Mount Cambalidus,[89] a branch of the Caucasian chain: from this point the country of the Bactri is most accessible.

Susiane is separated from Elymais by the river Eulæus, which rises in Media, and, after concealing itself in the earth for a short distance, rises again and flows through Mesabatene. It then flows round the citadel of Susa[90] and the

[81] More to the south, and nearer the sea.

[82] Previously mentioned in c. 26.

[83] A part of Mount Zagrus, previously mentioned, according to Hardouin.

[84] Its site appears to be unknown. According to Stephanus, it was a city of Persia. Forbiger conjectures that it is the same place as Badaca, mentioned by Diodorus Siculus, B. xix. c. 19; but that was probably nearer to Susa.

[85] The buryer excepted, perhaps.

[86] In c. 28 of the present Book.

[87] As mentioned in c. 26 of the present Book.

[88] A warlike tribe on the borders of Susiana and the Greater Media. In character they are thought to have resembled the Bakhtiara tribes, who now roam over the mountains which they formerly inhabited. It has been suggested that their name may possibly be connected with the modern Khuzistan.

[89] Supposed to be the same as the modern Kirmânshah mountains.

[90] As mentioned in a previous Note, (67 in p. 77), Pliny mistakes

temple of Diana, which is held in the highest veneration by all these nations; the river itself being the object of many pompous ceremonials; the kings, indeed, will drink of no other water,[91] and for that reason carry it with them on their journies to any considerable distance. This river receives the waters of the Hedypnos,[92] which passes Asylus, in Persis, and those of the Aduna, which rises in Susiane. Magoa[93] is a town situate near it, and distant from Charax fifteen miles; some writers place this town at the very extremity of Susiane, and close to the deserts.

Below the Eulæus is Elymais,[94] upon the coast adjoining to Persis, and extending from the river Orates[95] to Charax, a distance of two hundred and forty miles. Its towns are Seleucia[96] and Socrate,[97] upon Mount Casyrus. The shore which lies in front of this district is, as we have already stated, rendered inaccessible by mud,[98] the rivers Brixa and Ortacea bringing down vast quantities of slime from the interior, — Elymais itself being so marshy that it is impossible to reach Persis that way, unless by going completely round: it is also greatly infested with serpents, which are brought down by the waters of these rivers. That part of it which is the most inaccessible of all, bears the name of Characene, from Charax,[99] the frontier city of the kingdoms of Arabia. Of

the Eulæus for the Choaspes. In c. 26 he says that Susa is on the river Tigris.

[91] Pliny says this in B. xxxi. c. 21 of both the Eulæus and the Choaspes.

[92] Most probably the Hedyphon of Strabo, supposed to be the same as that now called the Djerrabi.

[93] Parisot thinks that this is the modern Jessed, in the vicinity of the desert of Bealbanet.

[94] Previously mentioned in c. 28.

[95] The modern Tab.

[96] Now called Camata, according to Parisot.

[97] The modern Saurac, according to Parisot. The more general reading is "Sosirate."

[98] Our author has nowhere made any such statement as this, for which reason Hardouin thinks that he here refers to the maritime region mentioned in c. 29 of the present Book (p. 69), the name of which Sillig reads as Ciribo. Hardouin would read it as Syrtibolos, and would give it the meaning of the "muddy district of the Syrtes." It is more likely, however, that Pliny has made a slip, and refers to something which, by inadvertence, he has omitted to mention.

[99] Charax Spasinu, or Pasinu, previously mentioned in c. 26 (see p. 62). The name Charax applied to a town, seems to have meant a fortified place.

this place we will now make mention, after first stating the opinions of M. Agrippa in relation to this subject. That author informs us that Media, Parthia, and Persis, are bounded on the east by the Indus, on the west by the Tigris, on the north by Taurus and Caucasus, and on the south by the Red Sea; that the length of these countries is thirteen hundred and twenty miles, and the breadth eight hundred and forty; and that, in addition to these, there is Mesopotamia, which, taken by itself, is bounded on the east by the Tigris, on the west by the Euphrates, on the north by the chain of Taurus, and on the south by the Persian Sea, being eight hundred miles in length, and three hundred and sixty in breadth.

Charax is a city situate at the furthest extremity of the Arabian Gulf, at which begins the more prominent portion of Arabia Felix:[1] it is built on an artificial elevation, having the Tigris on the right, and the Eulæus on the left, and lies on a piece of ground three miles in extent, just between the confluence of those streams. It was first founded by Alexander the Great, with colonists from the royal city of Durine, which was then destroyed, and such of his soldiers as were invalided and left behind. By his order it was to be called Alexandria, and a borough called Pella, from his native place, was to be peopled solely by Macedonians; the city, however, was destroyed by inundations of the rivers. Antiochus,[2] the fifth king of Syria, afterwards rebuilt this place and called it by his own name; and on its being again destroyed, Pasines, the son of Saggonadacus, and king of the neighbouring Arabians, whom Juba has incorrectly described as a satrap of king Antiochus, restored it, and raised embankments for its protection, calling it after himself. These embankments extended in length a distance of nearly three miles, in breadth a little less. It stood at first at a distance of ten stadia from the shore, and even had a harbour[3] of its own. But according to Juba, it is fifty miles from the sea; and at the present day, the ambassadors from Arabia, and our own merchants who have visited the place, say that it stands at a distance of one hundred and twenty miles from the sea-shore. Indeed, in no part of

[1] Called "Eudæmon" by Pliny.

[2] The Great, the father of Antiochus Epiphanes.

[3] Though this passage is probably corrupt, the reading employed by Sillig is inadmissible, as it makes nothing but nonsense. "Et jam Vipsanda porticus habet;" "and even now, Vipsanda has its porticos."

the world have alluvial deposits been formed more rapidly by the rivers, and to a greater extent than here; and it is only a matter of surprise that the tides, which run to a considerable distance beyond this city, do not carry them back again. At this place was born Dionysius,[4] the most recent author of a description of the world; he was sent by the late emperor Augustus to gather all necessary information in the East, when his eldest[5] son was about to set out for Armenia to take the command against the Parthians and Arabians.

The fact has not escaped me, nor indeed have I forgotten, that at the beginning of this work[5*] I have remarked that each author appeared to be most accurate in the description of his own country; still, while I am speaking of these parts of the world, I prefer to follow the discoveries made by the Roman arms, and the description given by king Juba, in his work dedicated to Caius Cæsar above-mentioned, on the subject of the same expedition against Arabia.

CHAP. 32. (28.)—ARABIA.

Arabia, inferior to no country throughout the whole world, is of immense extent, running downwards, as we have previously stated,[6] from Mount Amanus, over against Cilicia and Commagene; many of the Arabian nations having been removed to those countries by Tigranes the Great,[7] while others again have migrated of their own accord to the shores of our sea[8] and the coast of Egypt, as we have already mentioned.[8*] The Nubei[9] have even penetrated as far as Mount Libanus in the middle of Syria; in their turn they are bounded by the Ramisi, these by the Taranei, and these again by the Patami.

As for Arabia itself, it is a peninsula, running out between the Red and the Persian Seas; and it is by a kind of design,

[4] Dionysius of Charax. No particulars of him are known beyond those mentioned by Pliny.

[5] Caius, the son of Marcus Agrippa and Julia, the daughter of Augustus. He was the adopted son of Augustus.

[5*] See B. iii. c. 1, p. 151, in vol. 1. [6] In B. v. c. 21 and 22.

[7] Who called himself the King of kings, and was finally conquered by Pompey.

[8] The Mediterranean. [8*] See B. v. c. 12.

[9] Salmasius thinks that this should be written "Nombei;" but Hardouin remarks that the Nombæi were not of Arabian but Jewish extraction, and far distant from Mount Libanus.

apparently on the part of nature, that it is surrounded by the sea in such a manner as to resemble very much the form and size [10] of Italy, there being no difference either in the climate of the two countries, as they lie in the same latitudes.[10*] This, too, renders it equally fertile with the countries of Italy. We have already mentioned [11] its peoples, which extend from our sea as far as the deserts of Palmyrene, and we shall now proceed to a description of the remainder. The Scenitæ, as we have already stated,[12] border upon the Nomades and the tribes that ravage the territories of Chaldæa, being themselves of wandering habits, and receiving their name from the tents which constitute their dwellings; these are made of goats' hair, and they pitch them wherever they please. Next after them are the Nabatæi, who have a city called Petra,[13] which lies in a deep valley, somewhat less than two miles in width, and surrounded by inaccessible mountains, between which a river flows: it is distant from the city of Gaza, on our shores, six hundred miles, and from the Persian Gulf one hundred and thirty-five. At this place two roads meet, the one leading from Syria to Palmyra, and the other from Gaza. On leaving Petra we come to the Omani,[14] who dwell as far as Charax, with their once famous cities which were built by Semiramis, Besannisa and Soractia by name; at the present day they are wildernesses. We next come to a city situate on the banks of the Pasitigris, Fora by name, and subject to the king of Charax: to this place people resort on their road from Petra, and sail thence to Charax, twelve miles distant, with the tide. If you are proceeding by water from the Parthian territories, you come to a village known as Teredon; and below the confluence of the Euphrates and Tigris, you have the Chaldæi dwelling

[10] The only resemblance between them is, that each is a peninsula; that of Arabia being of far greater extent than Italy. It will be remarked that here, contrary to his ordinary practice, Pliny makes a distinction between the Red Sea and the Persian Sea or Gulf.

[10*] "In eandem etiam cœli partem nulla differentia spectat." A glance at the map will at once show the fallacy of this assertion.

[11] In B. v. c. 12 and 21.

[12] In c. 30 of the present Book.

[13] Mentioned in B. v. c. 21, if, indeed, that is the same Petra.

[14] Omana or Omanum was their chief place, a port on the north-east coast of Arabia Felix, a little above the promontory of Syagros, now Ras el Had, on a large gulf of the same name. The name is still preserved in the modern name Oman.

on the left side of the river, and the Nomadic tribes of the Scenitæ on the right. Some writers also make mention of two other cities situate at long intervals, as you sail along the Tigris, Barbatia, and then Thumata, distant from Petra, they say, ten days' sail; our merchants report that these places are subject to the king of Charax. The same writers also state, that Apamea [15] is situate where the overflow of the Euphrates unites with the Tigris; and that when the Parthians meditate an incursion, the inhabitants dam up the river by embankments, and so inundate their country.

We will now proceed to describe the coast after leaving Charax,[16] which was first explored by order of king Epiphanes. We first come to the place where the mouth of the Euphrates formerly existed, the river Salsus,[17] and the Promontory of Chaldone,[18] from which spot, the sea along the coast, for an extent of fifty miles,[19] bears more the aspect of a series of whirlpools than of ordinary sea; the river Achenus, and then a desert tract for a space of one hundred miles, until we come to the island of Ichara; the gulf of Capeus, on the shores of which dwell the Gaulopes and the Chateni, and then the gulf of Gerra.[20] Here we find the city of Gerra, five miles in circumference, with towers built of square blocks of salt. Fifty miles from the coast, lying in the interior, is the region of At-

[15] In Sitacene, mentioned in the preceding Chapter.

[16] Or rather, as Hardouin says, the shore opposite to Charax, and on the western bank of the river.

[17] Called Core Boobian, a narrow salt-water channel, laid down for the first time in the East India Company's chart, and separating a large low island, off the mouth of the old bed of the Euphrates, from the mainland.

[18] The great headland on the coast of Arabia, at the entrance of the bay of Doat-al-Kusma from the south, opposite to Pheleche Island.

[19] This is the line of coast extending from the great headland last mentioned to the river Khadema, the ancient Achenus.

[20] So called from the city of Arabia Felix, built on its shores. Strabo says of this city. "The city of Gerra lies in a deep gulf, where Chaldæan exiles from Babylon inhabit a salt country, having houses built of salt, the walls of which, when they are wasted by the heat of the sun, are repaired by copious applications of sea-water." D'Anville first identified this place with the modern El Khatiff. Niebuhr finds its site on the modern Koneit of the Arabs, called "Gran" by the Persians; but Foster is of opinion that he discovered its ruins in the East India Company's Chart, situate where all the ancient authorities had placed it, at the end of the deep and narrow bay at the mouth of which are situated the islands of Bahrein. The gulf mentioned by Pliny is identified by Foster with that of Bahrein.

tene, and opposite to Gerra is the island of Tylos,[21] as many miles distant from the shore; it is famous for the vast number of its pearls, and has a town of the same name; in its vicinity there is a smaller island,[22] distant from a promontory on the larger one twelve miles and a half. They say that beyond this large islands may be seen, upon which no one has ever landed: the circumference of the smaller island is one hundred and twelve miles and a half, and it is more than that distance from the Persian coast, being accessible by only one narrow channel. We then come to the island of Asclie, and the nations of the Nocheti, the Zurazi, the Borgodi, the Catharrei, the Nomades, and then the river Cynos.[23] Beyond this, the navigation is impracticable on that side,[24] according to Juba, on account of the rocks; and he has omitted all mention of Batrasave,[25] a town of the Omani, and of the city of Omana,[26] which former writers have made out to be a famous port of Carmania;[27] as also of Homna and Attana, towns which at the present day, our merchants say, are by far the most famous ones in the Persian Sea. Passing the river Cynos,[28] there is a mountain, Juba says, that bears marks of the action of fire; also, the nation of the Epimaranitæ, then a nation of Ichthyophagi, and then a desert island, and the nation of the Bathymi. We then come to the Eblitæan Mountains, the island of Omoënus, the port of Mochorbe, the islands of Etaxalos and Inchobrice, and the nation of the Cadæi. There are many islands also that have no name, but the better known ones are Isura, Rhinnea, and another still nearer the shore, upon which there are some stone pillars with an inscription in unknown characters. There are also the port of Gobœa, the desert islands called Bragæ, the nation of the Thaludæi, the

[21] The modern island of Bahrein, according to Brotier, still famous for its pearl-fishery.

[22] Now Samaki, according to Ansart. Its ancient name was Aradus.

[23] Hardouin takes this to be that which by the Arabians is called by the name of Falg.

[24] On the Arabian side of the Persian Gulf.

[25] Considered by modern geographers to be identical in situation with the Black Mountains and the Cape of Asabi, and still marked by a town and district named Sahee, close to Cape Mussendom.

[26] In the modern district still called Oman.

[27] On the opposite coast.

[28] He calls it Canis, evidently thinking that "Cynos" was its Greek appellation only: as meaning the "Dogs'" river.

region of Dabanegoris, Mount Orsa, with a harbour, the gulf of Duatus, with numerous islands, Mount Tricoryphos,[29] the region of Cardaleon, and the islands called Solanades, Cachinna, and that of the Ichthyophagi. We then find the Clari, the shore of Mamæum, on which there are gold mines, the region of Canauna, the nations of the Apitami and the Casani, the island of Devade, the fountain of Coralis, the Carphati, the islands of Calaëu and Amnamethus, and the nation of the Darræ. Also, the island of Chelonitis,[30] numerous islands of Ichthyophagi, the deserts of Odanda, Basa, many islands of the Sabæi, the rivers Thanar and Amnume, the islands of Dorice, and the fountains of Daulotos and Dora. We find also the islands of Pteros, Labatanis, Coboris, and Sambrachate, with a town of the same name[31] on the mainland. Lying to the south are a great number of islands, the largest of which is Camari; also the river Musecros, and the port of Laupas. We then come to the Sabæi, a nation of Scenitæ,[32] with numerous islands, and the city of Acila,[33] which is their mart, and from which persons embark for India. We next come to the region of Amithoscutta, Damnia, the Greater and the Lesser Mizi, and the Drimati. The promontory of the Naumachæi, over against Carmania, is distant from it fifty miles. A wonderful circumstance is said to have happened here; Numenius, who was made governor of Mesena by king Antiochus, while fighting against the Persians, defeated them at sea, and at low water, by land, with an army of cavalry, on the same day; in memory of which event he erected a twofold trophy on the same spot, in honour of Jupiter and Neptune.[34]

Opposite to this place, in the main sea, lies the island of Ogyris,[35]

[29] Or the mountain "with the Three Peaks."

[30] Stephanus mentions this as an island of the Erythræan Sea. Hardly any of these places appear to have been identified; and there is great uncertainty as to the orthography of the names.

[31] From which came the myrrh mentioned by Pliny in B. xii. c. 36.

[32] Or the Tent-Dwellers, the modern Bedouins.

[33] By some geographers identified with the Ocelis or Ocila, mentioned in c. 26, the present Zee Hill or Ghela, a short distance to the south of Mocha, and to the north of the Straits of Bab-el-Mandeb. Hardouin says, however, that it was a different place, Acila being in the vicinity of the Persian Gulf, in which he appears to be correct.

[34] Nothing relative to Numenius beyond this fact has been recorded.

[35] Hardouin and Ansart think that under this name is meant the island called in modern times Mazira or Maceira.

famous for being the burial-place of king Erythras;[36] it is distant from the mainland one hundred and twenty miles, being one hundred and twelve in circumference. No less famous is another island, called Dioscoridu,[37] and lying in the Azanian Sea;[38] it is distant two hundred and eighty miles from the extreme point of the Promontory of Syagrus.[39]

The remaining places and nations on the mainland, lying still to the south, are the Ausaritæ, to whose country it is seven days' journey among the mountains, the nations of the Larendani and the Catabani, and the Gebanitæ, who occupy a great number of towns, the largest of which are Nagia, and Thomna with sixty-five temples, a number which fully bespeaks its size. We then come to a promontory, from which to the mainland of the Troglodytæ it is fifty miles, and then the Thoani, the Actæi, the Chatramotitæ, the Tonabei, the Antidalei, the Lexianæ, the Agræi, the Cerbani, and the Sabæi,[40] the best known of all the tribes of Arabia, on account of their frankincense; these nations extend from sea to sea.[41] The towns which belong to them on the Red Sea are Marane, Marma, Corolia, and Sabatha; and in the interior, Nascus, Cardava, Carnus, and Thomala, from which they bring down their spices for exportation. One portion of this nation is the Atramitæ,[43] whose

[36] There seem to have been three mythical personages of this name; but it appears impossible to distinguish the one from the other.

[37] Or "Dioscoridis Insula," an island of the Indian Ocean, of considerable importance as an emporium or mart, in ancient times. It lay between the Syagrus Promontorium, in Arabia, and Aromata Promontorium, now Cape Guardafui, on the opposite coast of Africa, somewhat nearer to the former, according to Arrian, which cannot be the case if it is rightly identified with Socotorra, 200 miles distant from the Arabian coast, and 110 from the north-east promontory of Africa.

[38] So called from Azania, or Barbaria, now Ajan, south of Somauli, on the mainland of Africa.

[39] Now Cape Fartash, in Arabia.

[40] Their country is supposed to have been the Sheba of Scripture, the queen of which visited king Solomon. It was situate in the south-western corner of Arabia Felix, the north and centre of the province of Yemen, though the geographers before Ptolemy seem to give it a still wider extent, quite to the south of Yemen. The Sabæi most probably spread originally on both sides of the southern part of the Red Sea, the shores of Arabia and Africa. Their capital was Saba, in which, according to their usage, their king was confined a close prisoner.

[41] The Persian Gulf to the Red Sea.

[43] The modern district of Hadramaut derives its name from this people,

capital, Sabota, has sixty temples within its walls. But the royal city of all these nations is Mariaba;[44] it lies upon a bay, ninety-four miles in extent, and filled with islands that produce perfumes. Lying in the interior, and joining up to the Atramitæ, are the Minæi; the Elamitæ[45] dwell on the sea-shore, in a city from which they take their name. Next to these are the Chaculatæ; then the town of Sibi, by the Greeks called Apate;[46] the Arsi, the Codani, the Vadei, who dwell in a large town, the Barasasæi, the Lechieni, and the island of Sygaros,[47] into the interior of which no dogs are admitted, and so being exposed on the sea-shore, they wander about there and are left to die. We then come to a gulf which runs far into the interior, upon which are situate the Læenitæ, who have given to it their name; also their royal city of Agra,[48] and upon the gulf that of Læana, or as some call it Ælana;[49] indeed, by some of our writers this has been called the Ælanitic Gulf, and by others again, the Ælenitic; Artemidorus calls it the Alenitic, and Juba the Lænitic. The circumference of Arabia, measured from Charax to Læana, is said to be four thousand six hundred and sixty-six miles, but Juba thinks that it is somewhat less than four thousand. Its widest part is at the north, between the cities of Heroopolis and Charax. We will now mention the remaining places and peoples of the interior of Arabia.

Up to the Nabataei[50] the ancients joined the Thimanei; at present they have next to them the Taveni, and then the Suelleni, the Arraceni,[51] and the Areni,[52] whose town is the centre of

who were situate on the coast of the Red Sea to the east of Aden. Sabota, their capital, was a great emporium for their drugs and spices.

[44] Still known as Mareb, according to Ansart.

[45] Hardouin is doubtful as to this name, and thinks that it ought to be Elaïtæ, or else Læanitæ, the people again mentioned below.

[46] A name which looks very much like "fraud," or "cheating," as Hardouin observes, from the Greek ἀπάτη.

[47] Off the Promontory of Ras-el-Hud.

[48] Probably in the district now known as Akra. It was situate on the eastern coast of the Red Sea, at the foot of Mount Hippus.

[49] See B. v. c. 12, where this town is mentioned

[50] Whose chief city was Petra, previously mentioned.

[51] Supposed by some writers to have been the ancestors of the Saracens, so famous in the earlier part of the middle ages. Some of the MSS., indeed, read "Sarraceni."

[52] Their town is called Arra by Ptolemy.

all the commerce of these parts. Next come the Hemnatæ, the Aualitæ, the towns of Domata and Hegra, the Tamudæi,[53] with the town of Badanatha, the Carrei, with the town of Cariati,[54] the Achoali, with the town of Foth, and the Minæi, who derive their origin, it is supposed,[55] from Minos, king of Crete, and of whom the Carmæi are a tribe. Next comes a town, fourteen miles distant, called Marippa, and belonging to the Palamaces, a place by no means to be overlooked, and then Carnon. The Rhadamæi also—these too are supposed to derive their origin[56] from Rhadamanthus, the brother of Minos—the Homeritæ,[57] with their city of Masala,[58] the Hamirei, the Gedranitæ, the Amphyræ, the Ilisanitæ, the Bachilitæ, the Samnæi, the Amitæi, with the towns of Nessa[59] and Cennesseris, the Zamareni, with the towns of Sagiatta and Canthace, the Bacascami, the town of Riphearma, the name by which they call barley, the Autei, the Ethravi, the Cyrei and the Mathatæi, the Helmodenes, with the town of Ebode, the Agacturi, dwelling in the mountains, with a town twenty miles distant, in which is a fountain called Ænuscabales,[60] which signifies "the town of the camels." Ampelome[61] also, a Milesian colony, the town of Athrida, the Calingii, whose city is called Mariva,[62] and signifies "the lord of all men;" the towns of Palon and Murannimal, near a river by which it is thought that the Euphrates discharges itself, the nations of the Agrei and the Ammonii, the town of Athenæ, the Caunaravi, a name

[53] Their district is still called Thamud, according to Ansart.

[54] Still called Cariatain, according to Ansart.

[55] A ridiculous fancy, probably founded solely on the similarity of the name.

[56] A story as probable, Hardouin observes, as that about the descendants of Minos.

[57] The Arabs of Yemen, known in Oriental history by the name of Himyari, were called by the Greeks Homeritæ.

[58] An inland city, called Masthala by Ptolemy.

[59] Agatharchides speaks of a town on the sea coast, which was so called from the multitude of ducks found there. The one here spoken of was in the interior, and cannot be the same.

[60] Hardouin observes, that neither this word, nor the name Riphearma, above mentioned, has either a Hebrew or an Arabian origin.

[61] Probably the same place as we find spoken of by Herodotus as Ampe, and at which Darius settled a colony of Miletians after the capture of Miletus, B.C. 494.

[62] Hardouin remarks that Mariaba, the name found in former editions, has no such meaning in the modern Arabic.

which signifies "most rich in herds," the Coranitæ, the Œsani, and the Choani.[63] Here were also formerly the Greek towns of Arethusa, Larisa, and Chalcis, which have been destroyed in various wars.

Ælius Gallus,[64] a member of the Equestrian order, is the sole person who has hitherto carried the Roman arms into these lands, for Caius Cæsar, the son[65] of Augustus, only had a distant view of Arabia. In his expedition, Gallus destroyed the following towns, the names of which are not given by the authors who had written before his time, Negrana, Nestum, Nesca, Masugum, Caminacum, Labecia, and Mariva[66] above-mentioned, six miles in circumference, as also Caripeta, the furthest point of his expedition. He brought back with him the following discoveries—that the Nomades[67] live upon milk and the flesh of wild beasts, and that the other nations, like the Indians, extract a sort of wine from the palm-tree, and oil from sesame.[68] He says that the most numerous of these tribes are the Homeritæ and the Minæi, that their lands are fruitful in palms and shrubs, and that their chief wealth is centred in their flocks. We also learn from the same source that the Cerbani and the Agræi excel in arms, but more particularly the Chatramotitæ;[69] that the territories of the Carrei are the most extensive and most fertile; but that the Sabæi are the richest of all in the great abundance of their spice-bearing groves, their mines of gold,[70] their streams for

[63] Mentioned by Ovid in the Metamorphoses, B. v. l. 165, *et seq.* Sillig, however, reads "Ciani."

[64] An intimate friend of the geographer Strabo. He was prefect of Egypt during part of the reign of Augustus, and in the years B.C. 24 and 25. Many particulars have been given by Strabo of his expedition against Arabia, in which he completely failed. The heat of the sun, the badness of the water, and the want of the necessaries of life, destroyed the greater part of his army.

[65] By adoption, as previously stated.

[66] The town of the Calingii, mentioned above.

[67] Or wandering tribes.

[68] Its uses in medicine are stated at length in the last Chapter of B. xxi.

[69] Another form of the name of Atramitæ previously mentioned, the ancient inhabitants of the part of Arabia known as Hadramant, and settled, as is supposed, by the descendants of the Joctanite patriarch Hazarmaveth.

[70] Arabia at the present day yields no gold, and very little silver. The queen of Sheba is mentioned as bringing gold to Solomon, 1 *Kings*, x. 2, 2 *Chron.* ix. i. Artemidorus and Diodorus Siculus make mention, on the

irrigation, and their ample produce of honey and wax. Of their perfumes we shall have to treat more at large in the Book devoted to that subject.[71] The Arabs either wear the mitra,[72] or else go with their hair unshorn, while the beard is shaved, except upon the upper lip: some tribes, however, leave even the beard unshaved. A singular thing too, one half of these almost innumerable tribes live by the pursuits of commerce, the other half by rapine: take them all in all, they are the richest nations in the world, seeing that such vast wealth flows in upon them from both the Roman and the Parthian Empires; for they sell the produce of the sea or of their forests, while they purchase nothing whatever in return.

CHAP. 33.—THE GULFS OF THE RED SEA.

We will now trace the rest of the coast that lies opposite to that of Arabia. Timosthenes has estimated the length of the whole gulf at four days' sail, and the breadth at two, making the Straits[73] to be seven miles and a half in width. Eratosthenes says that the length of the shore from the mouth of the gulf is thirteen hundred miles on each side, while Artemidorus states that the length on the Arabian side is seventeen hundred and fifty miles, (29.) and that along the Troglodytic coast, to Ptolemais, the distance is eleven hundred and thirty-seven and a half. Agrippa, however, maintains that there is no difference whatever in the length of the two sides, and makes it seventeen hundred and twenty-two miles. Most writers mention the length as being four hundred and seventy-five miles, and make the Straits to face the south-east, being twelve miles wide according to some, fifteen according to others.

The localities of this region are as follow: On passing the Ælanitic Gulf there is another gulf, by the Arabians called

Arabian Gulf, of the Debæ, the Alilæi, and the Gasandi, in whose territories native gold was found. These last people, who did not know its value, were in the habit of bringing it to their neighbours, the Sabæi, and exchanging it for articles of iron and copper.

[71] B. xii.

[72] The "mitra," which was a head-dress especially used by the Phrygians, was probably of varied shape, and may have been the early form of the eastern turban.

[73] The Straits of Bab-el-Mandeb.

Sœa, upon which is situate the city of Heroön.[74] The town of Cambysu[75] also stood here formerly, between the Neli and the Marchades, Cambyses having established there the invalids of his army. We then come to the nation of the Tyri, and the port of the Danei, from which place an attempt has been made to form a navigable canal to the river Nile, at the spot where it enters the Delta previously mentioned,[76] the distance between the river and the Red Sea being sixty-two miles. This was contemplated first of all by Sesostris,[77] king of Egypt, afterwards by Darius, king of the Persians, and still later by Ptolemy II.,[78] who also made a canal, one hundred feet in width and forty deep, extending a distance of thirty-seven miles and a half, as far as the Bitter Springs.[79] He was deterred from proceeding any further with this work by apprehensions of an inundation, upon finding that the Red Sea was three cubits higher than the land in the interior of Egypt. Some writers, however, do not allege this as the cause, but say that his reason was, a fear lest, in consequence of introducing the sea, the water of the Nile might be spoilt, that being the only source from which the Egyptians obtain water for drinking. Be this as it may, the whole of the journey from the Egyptian Sea is usually performed by land one of the three following ways:—Either from Pelusium across the sands, in doing which the only method of finding the way is by means of reeds fixed in the earth, the wind immediately effacing all

[74] Or Heroöpolis, a city east of the Delta, in Egypt, and situate near the mouth of the royal canal which connected the Nile with the Red Sea. It was of considerable consequence as a trading station upon the arm of the Red Sea, which runs up as far as Arsinoë, the modern Suez, and was called the "Gulf" or "Bay of the Heroes." The ruins of Heroöpolis are still visible at Abu-Keyscheid.

[75] This place, as here implied, took its name from Cambyses, the son of Cyrus.

[76] In c. 9 of the preceding Book. "Dictum," however, may only mean, "called" the Delta.

[77] Herodotus, Diodorus Siculus, and Tzetzes, mention this, not with reference to Sesostris, but Necho, the grandson of Sesostris.

[78] Ptolemy Philadelphus, son of Ptolemy Soter, or Lagides.

[79] Now known by the name of Scheib. They derived their name from the saline flavour and deposition of their waters. These springs were strongly impregnated with alkaline salts, and with muriate of lime washed from the rocks which separated the Delta from the Red Sea. The salt which they produced being greatly valued, they were on that account regarded as the private property of the kings.

traces of footsteps: by the route which begins two miles beyond Mount Casius, and at a distance of sixty miles enters the road from Pelusium, adjoining to which road the Arabian tribe of the Autei dwell; or else by a third route, which leads from Gerrum, and which they call Adipsos,[80] passing through the same Arabians, and shorter by nearly sixty miles, but running over rugged mountains and through a district destitute of water. All these roads lead to Arsinoë,[81] a city founded in honour of his sister's name, upon the Gulf of Carandra, by Ptolemy Philadelphus, who was the first to explore Troglodytice, and called the river which flows before Arsinoë by the name of Ptolemæus. After this comes the little town of Enum, by some writers mentioned as Philotera; next to which are the Abasæi, a nation sprung from intermarriages with the Troglodytæ, then some wild Arabian tribes, the islands of Sapirine and Scytala, and after these, deserts as far as Myoshormon, where we find the fountain of Tatnos, Mount Æas, the island of Iambe, and numerous harbours. Berenice also, is here situate, so called after the name of the mother of Philadelphus, and to which there is a road from Coptos, as we have previously stated;[82] then the Arabian Autei, and the Zebadei.

CHAP. 34.—TROGLODYTICE.

Troglodytice comes next, by the ancients called Midoë, and by some Michoë; here is Mount Pentedactylos, some islands called Stenæ Deiræ,[83] the Halonnesi,[84] a group of islands not less in number, Cardamine, and Topazos,[85] which last has given its name to the precious stone so called. The gulf is full of islands; those known as Mareu are supplied with fresh water, those called Erenos, are without it; these were ruled by governors[86] appointed by the kings. In the interior

[80] The "not thirsty" route, so called by way of antiphrasis.

[81] See B. v. c. 9.

[82] In c. 26 of the present Book.

[83] Or "narrow necks," apparently, from the Greek στεναὶ δειραί. If this be the correct reading, they were probably so called from the narrow strait which ran between them.

[84] An island called Halonnesus has been already mentioned in B. iv. c. 23. None of these islands appear to have been identified.

[85] See B. xxxvii. c. 32.

[86] This seems to be the meaning, though, literally translated, it would be, "These were the prefects of kings."

are the Candei, also called Ophiophagi, a people in the habit of eating serpents; there is no region in existence more productive of them.

Juba, who appears to have investigated all these matters with the greatest diligence, has omitted, in his description of these regions—unless, indeed, it be an error in the copying—another place called Berenice and surnamed Panchrysos,[87] as also a third surnamed Epidires,[88] and remarkable for the peculiarity of its site; for it lies on a long projecting neck of land, at the spot where the Straits at the mouth of the Red Sea separate the coast of Africa from Arabia by a distance of seven miles only: here too is the island of Cytis,[89] which also produces the topaz.

Beyond this are forests, in which is Ptolemais,[90] built by Philadelphus for the chase of the elephant, and thence called Epitheras,[91] situate near Lake Monoleus. This is the same region that has been already mentioned by us in the Second Book,[92] and in which, during forty-five days before the summer solstice and for as many after, there is no shadow at the sixth hour, and during the other hours of the day it falls to the south; while at other times it falls to the north; whereas at the Berenice of which we first[93] made mention, on the day of the summer solstice the shadow totally disappears at the sixth hour, but no other unusual phænomenon is observed. That place is situate at a distance of six hundred and two miles from Ptolemais, which

[87] It obtained this title of πάνχρυσος, or "all golden," from its vicinity to the gold mines of Jebel Allaki, or Ollaki, from which the ancient Egyptians drew their principal supply of that metal, and in the working of which they employed criminals and prisoners of war.

[88] Or ἐπὶ δειρῆς, "upon the neck." It was situate on the western side of the Red Sea, near the Straits of Bab-el-Mandeb.

[89] Ansart suggests that the modern island of Mehun is here meant. Gosselin is of opinion that Pliny is in error in mentioning two islands in the Red Sea as producing the topaz.

[90] Called Theron, as well as Epitheras. It was an emporium on the coast of the Red Sea for the trade with India and Arabia. It was chiefly remarkable for its position in mathematical geography, as, the sun having been observed to be directly over it forty-five days before and after the summer solstice, the place was taken as one of the points for determining the length of a degree of a great circle on the earth's surface.

[91] From the Greek ἐπὶ θήρας, "for hunting."

[92] In B. ii. c. 75.

[93] In the same Chapter.

has thus become the subject of a remarkable theory, and has promoted the exercise of a spirit of the most profound investigation; for it was at this spot that the extent of the earth was first ascertained, it being the fact that Erastosthenes, beginning at this place by the accurate calculation of the length of the shadow, was enabled to determine with exactness the dimensions of the earth.

After passing this place we come to the Azanian[94] Sea, a promontory by some writers called Hispalus, Lake Mandalum, and the island of Colocasitis, with many others lying out in the main sea, upon which multitudes of turtles are found. We then come to the town of Suche, the island of Daphnidis,[95] and the town of the Adulitæ,[96] a place founded by Egyptian runaway slaves. This is the principal mart for the Troglodytæ, as also for the people of Æthiopia: it is distant from Ptolemais five days' sail. To this place they bring ivory in large quantities, horns of the rhinoceros, hides of the hippopotamus, tortoise-shell, sphingiæ,[97] and slaves. Beyond the Æthiopian Aroteræ are the islands known by the name of Aliæu,[98] as also those of Bacchias, Antibacchias, and Stratioton. After passing these, on the coast of Æthiopia, there is a gulf which remains unexplored still; a circumstance the more to be wondered at, seeing that merchants have pursued their investigations to a greater distance than this. We then come to a promontory, upon which there is a spring called Cucios,[99] much resorted to by

[94] So called from Azania, the adjoining coast of Africa, now known as that of Ajan. It was inhabited by a race of Æthiopians, who were engaged in catching and taming elephants, and supplying the markets of the Red Sea coast with hides and ivory.

[95] Now called Seyrman, according to Gosselin.

[96] Its name was Adule, being the chief haven of the Adulitæ, of mixed origin, in the Troglodytic region, situate on a bay of the Red Sea, called Aduliticus Sinus. It is generally supposed that the modern Thulla or Zulla, still pronounced Azoole, occupies its site, being situate in lat. 15° 35′ N. Ruins are said to exist there. D'Anville, however, in his map of the Red Sea, places Adule at Arkecko, on the same coast, and considerably to the north of Thulla. According to Cosmas, Adule was about two miles in the interior.

[97] Pliny gives a further description of this ape in B. viii. c. 21., and B. x. c. 72. They were much valued by the Roman ladies for pets, and very high prices were given for them.

[98] Now called Dahal-Alley, according to Gosselin.

[99] Hardouin, from Strabo, suggests that the reading ought to be Coracios.

mariners. Beyond it is the Port of Isis, distant ten days' rowing from the town of the Adulitæ: myrrh is brought to this port by the Troglodytæ. The two islands before the harbour are called Pseudepylæ,[1] and those in it, the same in number, are known as Pylæ;[2] upon one of these there are some stone columns inscribed with unknown characters. Beyond these is the Gulf of Abalites, the island of Diodorus,[3] and other desert islands; also, on the mainland, a succession of deserts, and then the town of Gaza, and the promontory and port of Mossylum,[4] to the latter of which cinnamon is brought for exportation: it was thus far that Sesostris led[5] his army.

Some writers place even beyond this, upon the shore, one town of Æthiopia, called Baricaza. Juba will have it that at the Promontory of Mossylum[6] the Atlantic Sea begins, and that with a north-west wind[7] we may sail past his native country, the Mauritanias, and arrive at Gades. We ought not on this occasion to curtail any portion of the opinions so expressed by him. He says that after we pass the promontory of the Indians,[8] known as Lepteacra, and by others called Drepanum, the distance, in a straight line, beyond the island of Exusta and Malichu, is fifteen hundred miles; from thence to a place called Sceneos two hundred and twenty-five; and from thence to the island of Adanu one hundred and fifty miles; so that the dis-

[1] The "False Gates." [2] The "Gates."

[3] D'Anville and Gosselin think that this is the island known as the French Island.

[4] Ansart thinks that this promontory is that known as Cape de Meta, and that the port is at the mouth of the little river called Soul or Soal.

[5] In his Æthiopian expedition. According to Strabo, he had altars and pillars erected there to record it.

[6] Under the impression entertained by the ancients, that the southern progress of the coast of Africa stopped short here, and that it began at this point to trend away gradually to the north-west.

[7] Coro. Salmasius seems with justice, notwithstanding the censures of Hardouin, to have found considerable difficulty in this passage. If it is Pliny's meaning that by sea round the south of the Promontory of Mossylum there is a passage to the extreme north-western point of Africa, it is pretty clear that it is not by the aid of a north-west wind that it could be reached. "Euro," "with a south-east wind," has been very properly suggested.

[8] By this name he means the Æthiopian Troglodytæ. Of course it would be absurd to attempt any identification of the places here named, as they must clearly have existed only in the imagination of the African geographer.

tance to the open sea[9] is altogether eighteen hundred and seventy-five miles. All the other writers, however, are of opinion that, in consequence of the intensity of the sun's heat, this sea is not navigable; added to which, commerce is greatly exposed to the depredations of a piratical tribe of Arabians called Ascitæ,[10] who dwell upon the islands: placing two inflated skins of oxen beneath a raft of wood, they ply their piratical vocation with the aid of poisoned arrows. We learn also from the same author that some nations of the Troglodytæ have the name of Therothoæ,[11] being so called from their skill in hunting. They are remarkable for their swiftness, he says, just as the Ichthyophagi are, who can swim like the animals whose element is the sea. He speaks also of the Bangeni, the Gangoræ, the Chalybes, the Xoxinæ, the Sirechæ, the Daremæ, and the Domazames. Juba states, too, that the inhabitants who dwell on the banks of the Nile from Syene as far as Meroë, are not a people of Æthiopia, but Arabians; and that the city of the Sun, which we have mentioned[12] as situate not far from Memphis, in our description of Egypt, was founded by Arabians. There are some writers who take away the further bank of the Nile from Æthiopia,[12*] and unite it to Africa;[13] and they people its sides with tribes attracted thither by its water. We shall leave these matters, however, to the option of each, to form his opinion on them, and shall now proceed to mention the towns on each side[14] in the order in which they are given.

CHAP. 35.—ÆTHIOPIA.

On leaving Syene,[15] and taking first the Arabian side, we find the nation of the Catadupi, then the Syenitæ, and the

[9] The supposed commencement of the Atlantic, to the west of the Promontory of Mossylum.

[10] From the Greek ἀσκὸς, a "bladder," or "inflated skin." It is not improbable that the story as to their mode of navigation is derived only from the fancied origin of their name.

[11] Apparently meaning in the Greek the "jackal-hunters," θηροθῶες. For an account of this animal, see B. viii. c. 52, and B. xv. c. 95.

[12] Heliopolis, described in B. v. c. 4.

[12*] Considering it as part of Asia.

[13] Conformably with the usage of modern geographers, and, one would almost think, with that of common sense.

[14] Of the river Nile.

[15] As to Syene and the Catadupi, see B. v. c. 10.

town of Tacompsos,[16] by some called Thatice, as also Aramasos, Sesamos, Sanduma, Masindomacam, Arabeta and Boggia, Leupitorga, Tantarene, Mecindita, Noa, Gloploa, Gystate, Megada, Lea, Renni, Nups, Direa, Patiga, Bacata, Dumana, Rhadata, at which place a golden cat was worshipped as a god, Boron, in the interior, and Mallos, near Meroë; this is the account given by Bion.

Juba, however, gives another account; he says that there is a city on Mount Megatichos,[17] which lies between Egypt and Æthiopia, by the Arabians known as Myrson, after which come Tacompsos, Aramus, Sesamos, Pide, Mamuda, Orambis, situate near a stream of bitumen, Amodita, Prosda, Parenta, Mama, Tesatta, Gallas, Zoton, Graucome, Emeus, the Pidibotæ, the Hebdomecontacometæ,[18] Nomades, who dwell in tents, Cyste, Macadagale, Proaprimis, Nups, Detrelis, Patis, the Ganbreves, the Magasnei, Segasmala, Crandala, Denna, Cadeuma, Thena, Batta, Alana, Mascoa, the Scammi, Hora, situate on an island, and then Abala, Androgalis, Sesecre, the Malli, and Agole.

On the African side[19] we find mentioned, either what is another place with the same name of Tacompsos, or else a part of the one before-mentioned, and after it Moggore, Sæa, Edos, Plenariæ, Pinnis, Magassa, Buma, Linthuma, Spintum, Sydop, the Censi, Pindicitora, Acug, Orsum, Sansa, Maumarum, Urbim, the town of Molum, by the Greeks called Hypaton,[20] Pagoarca, Zmanes, at which point elephants begin to be found, the Mambli, Berressa, and Acetuma; there was formerly a town also called Epis, over against Meroë, which had, however, been destroyed before Bion wrote.

These are the names of places given as far as Meroë; but at the present day hardly any of them on either side of the river are in existence; at all events, the prætorian troops

[16] This place was also called in later times Contrapselcis. It was situate in the Dodecaschœnus, the part of Æthiopia immediately above Egypt, on an island near the eastern bank of the river, a little above Pselcis, which stood on the opposite bank. It has been suggested that this may have been the modern island of Derar. The other places do not appear to have been identified, and, in fact, in no two of the MSS. do the names appear to agree.

[17] Or the "Great Wall."

[18] Meaning, "the people who live in seventy villages."

[19] Or western side of the Nile, between Syene and Meroë.

[20] Ὕπατον, the "supreme," or perhaps the "last."

that were sent by the Emperor Nero[21] under the command of a tribune, for the purposes of enquiry, when, among his other wars, he was contemplating an expedition against Æthiopia, brought back word that they had met with nothing but deserts on their route. The Roman arms also penetrated into these regions in the time of the late Emperor Augustus, under the command of P. Petronius,[22] a man of Equestrian rank, and prefect of Egypt. That general took the following cities, the only ones we now find mentioned there, in the following order; Pselcis,[23] Primis, Abuncis, Phthuris, Cambusis, Atteva, and Stadasis, where the river Nile, as it thunders down the precipices, has quite deprived the inhabitants of the power of hearing: he also sacked the town of Napata.[24] The extreme distance to which he penetrated beyond Syene was nine hundred and seventy miles; but still, it was not the Roman arms that rendered these regions a desert. Æthiopia, in its turn gaining the mastery, and then again reduced to servitude, was at last worn out by its continual wars with Egypt, having been a famous and powerful country even at the time of the Trojan war, when Memnon[25] was its king; it is also very evident from the fabulous stories about Andromeda,[26] that it ruled over Syria in the time of king Cepheus, and that its sway extended as far as the shores of our sea.

In a similar manner, also, there have been conflicting accounts as to the extent of this country: first by Dalion,

[21] Dion Cassius also mentions this expedition. From Seneca we learn that Nero dispatched two centurions to make inquiry into the sources of the Nile.

[22] Dion Cassius calls him Caius Petronius. He carried on the war in B.C. 22 against the Æthiopians, who had invaded Egypt under their queen Candace. He took many of their towns.

[23] Du Bocage is of opinion that this place stood not far from the present Ibrim.

[24] Supposed by Du Bocage to have stood in the vicinity of the modern Dongola.

[25] He was clearly a mythical personage, and nothing certain is known with respect to him. Tombs of Memnon were shown in several places, as at Ptolemais in Syria, on the Hellespont, on a hill near the mouth of the river Æsepus, near Palton in Syria, in Æthiopia, and elsewhere.

[26] Her story has been alluded to in the account of Joppa, B. v. c. 34. Cepheus, the father of Andromeda, though possessing the coasts of Syria, was fabled to have been king of Æthiopia.

who travelled a considerable distance beyond Meroë, and after him by Aristocreon and Basilis, as well as the younger Simonides, who made a stay of five years at Meroë,[27] when he wrote his account of Æthiopia. Timosthenes, however, the commander of the fleets of Philadelphus, without giving any other estimate as to the distance, says that Meroë is sixty days' journey from Syene; while Eratosthenes states that the distance is six hundred and twenty-five miles, and Artemidorus six hundred. Sebosus says that from the extreme point of Egypt, the distance to Meroë is sixteen hundred and seventy-five miles, while the other writers last mentioned make it twelve hundred and fifty. All these differences, however, have since been settled; for the persons sent by Nero for the purposes of discovery have reported that the distance from Syene to Meroë is eight hundred and seventy-one miles, the following being the items. From Syene to Hiera Sycaminos[28] they make to be fifty-four miles, from thence to Tama seventy-two, to the country of the Evonymitæ,[29] the first region of Æthiopia, one hundred and twenty, to Acina fifty-four, to Pittara twenty-five, and to Tergedus one hundred and six. They state also that the island of Gagaudes lies at an equal distance from Syene and Meroë, and that it is at this place that the bird called the parrot was first seen; while at another island called Articula, the animal known as the sphingium[30] was first discovered by them, and after passing Tergedus, the cynocephalus.[31] The distance from thence to Napata is eighty miles, that little town being the only one of all of them that now survives. From thence to the island of Meroë the distance is three hundred and sixty miles. They also state that the grass in the vicinity of Meroë becomes of a greener and fresher colour, and that there is some slight appearance of forests, as also traces of the rhinoceros and elephant. They reported also that the city of Meroë stands at a distance of seventy miles from the first entrance of the island of Meroë, and that close to it is another island, Tadu by name, which forms a harbour facing those who enter the

[27] See B. v. c. 10, where Meroë is also mentioned.

[28] Or the sacred "sycamore tree."

[29] Situate beyond the Great Cataract, and on the western bank.

[30] See the Notes to the preceding Chapter, in p. 95.

[31] Or dog's-headed ape, described in B. viii. c. 80. It is supposed to be the baboon.

right hand channel of the river. The buildings in the city, they said, were but few in number, and they stated that a female, whose name was Candace, ruled over the district, that name having passed from queen to queen for many years. They related also that there was a temple of Jupiter Hammon there, held in great veneration, besides smaller shrines erected in honour of him throughout all the country. In addition to these particulars, they were informed that in the days of the Æthiopian dominion, the island of Meroë enjoyed great renown, and that, according to tradition, it was in the habit of maintaining two hundred thousand armed men, and four thousand artisans. The kings of Æthiopia are said even at the present day to be forty-five in number.

(30.) The whole of this country has successively had the names of Ætheria,[32] Atlantia, and last of all, Æthiopia, from Æthiops, the son of Vulcan. It is not at all surprising that towards the extremity of this region the men and animals assume a monstrous form, when we consider the changeableness and volubility of fire, the heat of which is the great agent in imparting various forms and shapes to bodies. Indeed, it is reported that in the interior, on the eastern side, there is a people that have no noses, the whole face presenting a plane surface; that others again are destitute of the upper lip, and others are without tongues. Others again, have the mouth grown together, and being destitute of nostrils, breathe through one passage only, imbibing their drink through it by means of the hollow stalk of the oat, which there grows spontaneously and supplies them with its grain for food. Some of these nations have to employ gestures by nodding the head and moving the limbs, instead of speech. Others again were unacquainted with the use of fire before the time of Ptolemy Lathyrus, king of Egypt. Some writers have also stated that there is a nation of Pygmies, which dwells among the marshes in which the river Nile takes its rise; while on the coast of Æthiopia, where we paused,[33]

[32] Hesychius says that it was also called Aëria, probably from the time of its king Ægyptus, who was called Aërius.

[33] "Ubi desiimus." This appears to be a preferable reading to "ubi desinit," adopted by Sillig, and apparently referring to the river Nile. It is not improbable that our author here alludes, as Hardouin says, to his words in the preceding Chapter, "Hinc in ora Æthiopiæ," &c. See p. 96.

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there is a range of mountains, of a red colour, which have the appearance of being always burning.

All the country, after we pass Meroë, is bounded by the Troglodytæ and the Red Sea, it being three days' journey from Napata to the shores of that sea; throughout the whole of this district the rain water is carefully preserved at several places, while the country that lies between is extremely productive of gold. The parts beyond this are inhabited by the Adabuli, a nation of Æthiopia; and here, over against Meroë, are the Megabarri,[34] by some writers called the Adiabari; they occupy the city of Apollo; some of them, however, are Nomades, living on the flesh of elephants. Opposite to them, on the African side, dwell the Macrobii,[35] and then again, beyond the Megabarri, there are the Memnones and the Dabeli, and, at a distance of twenty days' journey, the Critensi. Beyond these are the Dochi, and then the Gymnetes, who always go naked; and after them the Andetæ, the Mothitæ, the Mesaches, and the Ipsodoræ, who are of a black tint, but stain the body all over with a kind of red earth. On the African side again there are the Medimni, and then a nation of Nomades, who live on the milk of the cynocephalus, and then the Aladi and the Syrbotæ,[36] which last are said to be eight cubits in height.

Aristocreon informs us that on the Libyan side, at a distance of five days' journey from Meroë, is the town of Tolles, and then at a further distance of twelve days' journey, Esar, a town founded by the Egyptians who fled from Psammetichus;[37] he states also that they dwelt there for a period of three hundred years, and that opposite, on the Arabian side, there is a town of theirs called Daron.[38] The town, however, which he calls Esar, is by Bion called Sape, who says that the name means "the strangers:" their capital being Sembobitis, situate on an island, and a third place of theirs, Sinat in Arabia. Between the mountains and the river Nile are the Simbarri, the Palugges, and, on the mountains themselves, the Asachæ,

[34] Ansart thinks that the country of this people was the modern Kordofan. This, however, could not be the case, if the Macrobii, *opposite* to them, dwelt on the African side of the river.

[35] Or "long-livers."

[36] Mentioned again in c. 2 of the next Book.

[37] Who is mentioned again in B. xxxvi. c. 19.

[38] Ptolemy, however, speaks of Esar and Daron as the names of towns situate on the island of Meroë.

who are divided into numerous peoples; they are said to be distant five days' journey from the sea, and to procure their subsistence by the chase of the elephant. An island in the Nile, which belongs to the Semberritæ, is governed by a queen; beyond it are the Æthiopian Nubei,[39] at a distance of eight days' journey: their town is Tenupsis, situate on the Nile. There are the Sesambri also, a people among whom all the quadrupeds are without ears, the very elephants even. On the African side are the Tonobari, the Ptoenphæ, a people who have a dog for their king, and divine from his movements what are his commands; the Auruspi, who have a town at a considerable distance from the Nile, and then the Archisarmi, the Phaliges, the Marigerri, and the Casmari.

Bion makes mention also of some other towns situate on islands, the whole distance being twenty days' journey from Sembobitis to Meroë; a town in an adjoining island, under the queen of the Semberritæ, with another called Asara, and another, in a second island, called Darde. The name of a third island is Medoë, upon which is the town of Asel, and a fourth is called Garodes, with a town upon it of the same name. Passing thence along the banks of the Nile, are the towns of Navi, Modunda, Andatis, Secundum, Colligat, Secande, Navectabe, Cumi, Agrospi, Ægipa, Candrogari, Araba, and Summara.[40]

Beyond is the region of Sirbitum, at which the mountains terminate,[41] and which by some writers is said to contain the maritime Æthiopians, the Nisacæthæ, and the Nisyti, a word which signifies "men with three or four eyes,"—not that the people really have that conformation, but because they are remarkable for the unerring aim of their arrows. On that side of the Nile which extends along the borders of the Southern Ocean beyond the Greater Syrtes,[42] Dalion says that the people, who use rain-water only, are called the Cisori, and that the other nations are the Longompori,

[39] On the eastern side of the Nile, and bearing no reference, as Hardouin remarks, to the people of modern Nubia.

[40] There is considerable doubt as to the correctness of these names, as they are differently spelt in the MSS.

[41] Marcus thinks that these mountains are those which lie to the west of the Nile, in Darfour, and Dar-Sale, or Dizzela, mentioned by Salt, in his *Travels in Abyssinia*.

[42] From this it would appear that Pliny, with Dalion, supposed that the Nile ran down to the southern ocean, and then took a turn along the coast in a westerly direction; the shore being skirted by Syrtes, or quicksands, similar to those in the north of Africa.

distant five days' journey from the Œcalices, the Usibalci, the Isbeli, the Perusii, the Ballii, and the Cispii, the rest being deserts, and inhabited by the tribes of fable only. In a more westerly direction are the Nigroæ, whose king has only one eye, and that in the forehead, the Agriophagi,[43] who live principally on the flesh of panthers and lions, the Pamphagi,[44] who will eat anything, the Anthropophagi, who live on human flesh, the Cynamolgi,[45] a people with the heads of dogs, the Artabatitæ, who have four feet, and wander about after the manner of wild beasts; and, after them, the Hesperiæ and the Perorsi, whom we have already spoken[46] of as dwelling on the confines of Mauritania. Some tribes, too, of the Æthiopians subsist on nothing but locusts,[47] which are smoke-dried and salted as their provision for the year; these people do not live beyond their fortieth year.

M. Agrippa was of opinion that the length[47*] of the whole country of the Æthiopians, including the Red Sea, was two thousand one hundred and seventy miles, and its breadth, including Upper Egypt, twelve hundred and ninety-seven. Some authors again have made the following divisions of its length; from Meroë to Sirbitum eleven days' sail, from Sirbitum to the Dabelli fifteen days', and from them to the Æthiopian Ocean six days' journey. It is agreed by most authors, that the distance altogether, from the ocean[48] to Meroë, is six hundred and twenty-five miles, and from Meroë to Syene, that which we have already mentioned. Æthiopia lies from south-east to south-west. Situate as it is, in a southern hemisphere, forests of ebony are to be seen of the brightest verdure; and in the midst of these regions there is a mountain of immense height, which overhangs the sea, and emits a perpetual flame. By the Greeks this mountain is called Theon Ochema,[49] and at a distance of four days' sail from it

[43] So called from the Greek—"Eaters of wild beasts."

[44] The "all-eaters."

[45] Or the "livers on the milk of the dog."

[46] In c. 8 of the preceding Book.

[47] They were thence called by the Greeks "Acridophagi." According to Agatharchides, these people dwelt in what is modern Nubia, where Burkhardt found the people subsisting on lizards.

[47*] Hardouin remarks, that the length is measured from south-east to south-west; and the breadth from south to north.

[48] The supposed Southern Ocean, which joins the Atlantic on the west.

[49] Or the "Chariot of the gods," mentioned also in Book ii. c. 110, and

is a promontory, known as Hesperu Ceras,[50] upon the confines of Africa, and close to the Hesperiæ, an Æthiopian nation. There are some writers who affirm that in these regions there are hills of a moderate height, which afford a pleasant shade from the groves with which they are clad, and are the haunts of Ægipans[51] and Satyrs.

CHAP. 36. (31.)—ISLANDS OF THE ÆTHIOPIAN SEA.

We learn from Ephorus, as well as Eudoxus and Timosthenes, that there are great numbers of islands scattered all over this sea; Clitarchus says that king Alexander was informed of an island so rich that the inhabitants gave a talent of gold for a horse, and of another[52] upon which there was found a sacred mountain, shaded with a grove, the trees of which emitted odours of wondrous sweetness; this last was situate over against the Persian Gulf. Cerne[53] is the name of an island situate opposite to Æthiopia, the size of which has not been ascertained, nor yet its distance from the main land: it is said that its inhabitants are exclusively Æthiopians. Ephorus states that those who sail from the Red Sea into the Æthiopian Ocean cannot get beyond the Columnæ[54] there, some little islands so called. Polybius says

B. v. c. 1. It is supposed to have been some portion of the Atlas chain; but the subject is involved in the greatest obscurity.

[50] Or the "Western Horn." It is not known whether this was Cape de Verde, or Cape Roxo. Ansart thinks that it is the same as Cape Non. It is mentioned in c. 1 of B. v. as the "promontorium Hesperium."

[51] See notes to B. v. c. 1, in vol. i. p. 378.

[52] Marcus says that these islands are those called the "Two Sisters," situate to the west of the Isle of Socotra, on the coast of Africa. They are called by Ptolemy, Cocionati.

[53] The position of this island has been much discussed by geographers, as being intimately connected with the subject of Hanno's voyage to the south of Africa. Gosselin, who carries that voyage no further south than Cape Non, in about 28° north lat., identifies Cerne with Fedallah, on the coast of Fez, which, however, is probably much too far to the north. Major Rennell places it as far south as Arguin, a little to the south of the southern Cape Blanco, in about 20° 5′ North latitude. Heeren, Mannert, and others, adopt the intermediate portion of Agadir, or Souta Cruz, on the coast of Morocco, just below Cape Ghir, the termination of the main chain of the Atlas. If we are to trust to Pliny's statement, it is pretty clear that nothing certain was known about it in his day.

[54] The "Pillars." Marcus thinks that these were some small islands near the Isle of Socotra.

that Cerne is situate at the extremity of Mauritania, over against Mount Atlas, and at a distance of eight stadia from the land; while Cornelius Nepos states that it lies very nearly in the same meridian as Carthage, at a distance from the mainland of ten miles, and that it is not more than two miles in circumference. It is said also that there is another island situate over against Mount Atlas, being itself known by the name of Atlantis.[55] Five days' sail beyond it there are deserts, as far as the Æthiopian Hesperiæ and the promontory, which we have mentioned as being called Hesperu Ceras, a point at which the face of the land first takes a turn towards the west and the Atlantic Sea. Facing this promontory are also said to be the islands called the Gorgades,[56] the former abodes of the Gorgons, two days' sail from the mainland, according to Xenophon of Lampsacus. Hanno, a general of the Carthaginians, penetrated as far as these regions, and brought back an account that the bodies of the women were covered with hair, but that the men, through their swiftness of foot, made their escape; in proof of which singularity in their skin, and as evidence of a fact so miraculous, he placed the skins[57] of two of these females in the temple of Juno, which were to be seen there until the capture of Carthage. Beyond these even, are said to be the two islands of the Hesperides; but so uncertain are all the accounts relative to this subject, that Statius Sebosus says that it is forty days' sail, past the coast of the Atlas range, from the islands of the Gorgons to those of the Hesperides, and one day's sail from these to the Hesperu Ceras. Nor have we any more certain information relative to the islands of Mauritania. We only know, as a fact well-ascertained, that some few were discovered by Juba over against the country of the Autololes, upon which he established a manufactory of Gætulian purple.[58]

[55] Hardouin says that this is not the Atlantis rendered so famous by Plato, whose story is distantly referred to in B. ii. c. 92 of this work. It is difficult to say whether the Atlantis of Plato had any existence at all, except in the imagination.

[56] Medusa and her sisters, the daughters of Phorcys and Ceto. The identity of their supposed islands seems not to have been ascertained. For the poetical aspect of their story, see Ovid's Met., B. iv.

[57] It is not improbable that these were the skins of a species of uran-outang, or large monkey.

[58] The Purpurariæ, or "Purple Islands," probably the Madeira group.

CHAP. 37. (32.)—THE FORTUNATE ISLANDS.

There are some authors who think that beyond these are the Fortunate Islands,[59] and some others; the number of which Sebosus gives, as well as the distances, informing us that Junonia[60] is an island seven hundred and fifty miles distant from Gades. He states also that Pluvialia[61] and Capraria[62] are the same distance from Junonia, to the west; and that in Pluvialia the only fresh water to be obtained is rain water. He then states that at a distance of two hundred and fifty miles from these, opposite the left of Mauritania, and situate in the direction of the sun at the eighth hour, are the Fortunate Islands,[63] one of which, from its undulating surface, has the name of Invallis,[64] and another that of Planasia,[65] from the peculiarity[66] of its appearance. He states also that the circumference of Invallis is three hundred miles, and that trees grow to a height of one hundred and fourteen feet.

Relative to the Fortunate Islands, Juba has ascertained the following facts: that they are situate to the south in nearly a due westerly direction, and at a distance from the Purple Islands of six hundred and twenty-five miles, the sailing being made for two hundred and fifty miles due west, and then three hundred and seventy-five towards the east.[67] He states that the first is called Ombrios,[68] and that it presents no traces of buildings whatever; that among the mountains there is a lake, and some trees,[69] which bear a strong resemblance to giant

[59] Or Islands of the Blessed—the modern Canaries.

[60] Supposed to be the modern island of Fuerteventura.

[61] Supposed to be that now called Ferro.

[62] Probably the modern Gomera. In B. iv. c. 36, Pliny mentions them as six in number, there being actually seven.

[63] He does not appear on this occasion to reckon those already mentioned as belonging to the group of the Fortunatæ Insulæ.

[64] The present Isle of Teneriffe.

[65] Supposed to be that now called Gran Canaria.

[66] The smoothness of its surface.

[67] It is impossible to see clearly what he means. Littré says that it has been explained by some to mean, that from the Purpurariæ, or Madeira Islands, it is a course of 250 miles to the west to the Fortunatæ or Canary Islands; but that to return from the Fortunatæ to the Purpurariæ, required a more circuitous route in an easterly direction.

[68] Or Pluvialia, the Rainy Island, previously mentioned.

[69] Salmasius thinks that the sugar-cane is here alluded to. Hardouin

fennel, and from which water is extracted; that drawn from those that are black is of a bitter taste, but that produced by the white ones is agreeable and good for drinking. He states also that a second island has the name of Junonia, but that it contains nothing beyond a small temple of stone: also that in its vicinity there is another, but smaller, island[70] of the same name, and then another called Capraria, which is infested by multitudes of huge lizards. According to the same author, in sight of these islands is Ninguaria,[71] which has received that name from its perpetual snows; this island abounds also in fogs. The one next to it is Canaria;[72] it contains vast multitudes of dogs of very large size, two of which were brought home to Juba: there are some traces of buildings to be seen here. While all these islands abound in fruit and birds of every kind, this one produces in great numbers the date palm which bears the caryota, also pine nuts. Honey too abounds here, and in the rivers papyrus, and the fish called silurus,[73] are found. These islands, however, are greatly annoyed by the putrefying bodies of monsters, which are constantly thrown up by the sea.

CHAP. 38.—THE COMPARATIVE DISTANCES OF PLACES ON THE FACE OF THE EARTH.

Having now fully described the earth, both without[74] as well as within, it seems only proper that we should succinctly state the length and breadth of its various seas.

(33.) Polybius has stated, that in a straight line from the Straits of Gades to the mouth of the Mæotis, it is a distance of

says that in Ferro there still grows a tree of this nature, known as the "holy tree."

[70] Or the Lesser Junonia; supposed to be the same as the modern Lanzarote.

[71] Or "Snow Island," the same as that previously called Invallis, the modern Teneriffe, with its snow-capped peak.

[72] So called from its canine inhabitants.

[73] As to the silurus, see B. ix. c. 17.

[74] Hardouin takes this to mean, both as to the continent, with the places there situate, and the seas, with the islands there found; the continent being the interior, and the seas the exterior part. It is much more likely, however, that his description of the *interior* of the earth is that given in the 2nd Book, while the account of the exterior is set forth in the geographical notices contained in the 3rd, 4th, 5th, and 6th.

three thousand four hundred and thirty-seven miles and a half, and that, starting from the same point,[75] the distance in a straight line to Sicily is twelve hundred and fifty miles, from thence to Crete three hundred and seventy-five, to Rhodes one hundred and eighty-seven and a half, to the Chelidonian Islands the same distance, to Cyprus two hundred and twenty-five, and from thence to Seleucia Pieria, in Syria, one hundred and fifteen miles: the sum of all which distances amounts to two thousand three hundred and forty miles. Agrippa estimates this same distance, in a straight line from the Straits of Gades to the Gulf of Issus, at three thousand three hundred and forty miles; in which computation, however, I am not certain that there is not some error in the figures, seeing that the same author has stated that the distance from the Straits of Sicily to Alexandria is thirteen hundred and fifty miles. Taking the whole length of the sea-line throughout the gulfs above-mentioned, and beginning at the same point,[76] he makes it ten thousand and fifty-eight miles; to which number Artemidorus has added seven hundred and fifty-six: the same author, including in his calculation the shores of the Mæotis, makes the whole distance seventeen thousand three hundred and ninety miles. Such is the measurement given by men who have penetrated into distant countries, unaided by force of arms, and have, with a boldness that exhibits itself in the times of peace even, challenged, as it were, Fortune herself.

I shall now proceed to compare the dimensions of the various parts of the earth, however great the difficulties which may arise from the discrepancy of the accounts given by various authors: the most convenient method, however, will be that of adding the breadth to the length.[77] Following this mode of reckoning, the dimensions of Europe will be eight thousand two hundred and ninety-four miles; of Africa, to adopt a mean between all the various accounts given by authors, the length is three thousand seven hundred and ninety-four miles, while the breadth, so far as it is inhabited, in no part exceeds

[75] The Straits of Gades or Cadiz.

[76] The Straits of Gades.

[77] Littré has the following remark: "Is it possible that Pliny can have imagined that the extent of a surface could be ascertained by adding the length to the breadth?" It is just possible that such may not have been his meaning; but it seems quite impossible to divine what it was.

two hundred and fifty miles.[78] But, as Agrippa, including its deserts, makes it from Cyrenaica, a part of it, to the country of the Garamantes, so far as was then known, a further distance of nine hundred and ten miles, the entire length, added together, will make a distance of four thousand six hundred and eight miles. The length of Asia is generally admitted[79] to be six thousand three hundred and seventy-five miles, and the breadth, which ought, properly, to be reckoned from the Æthiopian Sea to Alexandria,[80] near the river Nile, so as to run through Meroë and Syene, is eighteen hundred and seventy-five. It appears then that Europe is greater than Asia, by a little less than one half of Asia, and greater than Africa by as much again of Africa and one-sixth. If all these sums are added together, it will be clearly seen that Europe is one-third, and a little more than one-eighth part of one-third, Asia one-fourth and one-fourteenth part of one-fourth, and Africa, one-fifth and one-sixtieth part of one-fifth of the whole earth.[81]

CHAP. 39.—DIVISION OF THE EARTH INTO PARALLELS AND SHADOWS OF EQUAL LENGTH.

To the above we shall add even another instance of ingenious discovery by the Greeks, and indeed of the most minute skilfulness; that so nothing may be wanting to our investigation of the geographical divisions of the earth, and the various countries thereof which have been pointed out; that it may be the better understood, too, what affinity, or relationship as it were, exists between one region and another, in respect to the length of their days and nights, and in which of them the shadows are of equal length, and the distance from the pole is the same. I shall therefore give these particulars as well, and shall state the divisions of the whole earth in accordance with the various sections of the heavens. The lines or segments which

[78] He means to say that the interior is not inhabited beyond a distance of 250 miles from the sea-coast.

[79] See B. v. c. 9.

[80] He is probably speaking only of that part of Asia which included Egypt, on the eastern side of the river Nile, according to ancient geography. His mode, however, of reckoning the breadth of Asia, *i.e.* from south to north, is singular. See p. 104.

[81] On a rough calculation, these aliquot parts in all would make $\frac{4263}{4290}$ parts of the unit. It is not improbable that the figures given above as the dimensions are incorrect, as they do not agree with the fractional results here given by Pliny.

divide the world are many in number; by our people they are known as "circuli" or circles, by the Greeks they are called "paralleli" or parallels.

(34.) The first begins at that part of India which looks towards the south, and extends to Arabia and those who dwell upon the borders of the Red Sea. It embraces the Gedrosi, the Carmanii, the Persæ, the Elymæi, Parthyene, Aria, Susiane, Mesopotamia, Seleucia surnamed Babylonia, Arabia as far as Petra, Cœle Syria, Pelusium, the lower parts of Egypt called the Chora of Alexandria, the maritime parts of Africa, all the cities of Cyrenaica, Thapsus, Adrumetum, Clupea, Carthage, Utica, the two Hippo's, Numidia, the two Mauritanias, the Atlantic Sea, and the Pillars of Hercules. Within the meridian of this parallel, on the middle day of the equinox, the pin of the dial, usually called the gnomon, if seven feet in length, throws a shadow at mid-day no more than four feet long: the longest day and night are fourteen equinoctial hours respectively, the shortest being only ten.

The next circle or parallel begins with the western parts of India, and runs through the middle of Parthia, through Persepolis, the nearer parts of Persis, the nearer Arabia, Judæa, and the people who live near Mount Libanus, and it embraces Babylon, Idumæa, Samaria, Hierosolyma, Ascalon, Joppa, Cæsarea in Phœnicia, Ptolemais, Sidon, Tyre, Berytus, Botrys, Tripolis, Byblus, Antiochia, Laodicea, Seleucia, the maritime parts of Cilicia, the southern parts of Cyprus, Crete, Lilybæum in Sicily, and the northern parts of Africa and Numidia. In these regions, at the time of the equinox, a gnomon of thirty-five feet in length gives only a shadow twenty-four feet long; and the longest day and night are respectively fourteen equinoctial hours, and one-fifth of an hour, in length.

The third circle or parallel begins at the part of India which lies in the vicinity of Mount Imaüs, and runs through the Caspian Gates and the nearer parts of Media, Cataonia, Cappadocia, Taurus, Amanus, Issus, the Passes of Cilicia, Soli, Tarsus, Cyprus, Pisidia, Side in Pamphylia, Lycaonia, Patara in Lycia, Xanthus, Caunus, Rhodes, Cos, Halicarnassus, Cnidos, Doris, Chios, Delos, the middle of the Cyclades, Gythium, Malea, Argos, Laconia, Elis, Olympia, Messenia in Peloponnesus, Syracuse, Catina, the middle of Sicily, the southern parts of Sardinia, Carteia, and Gades. A gnomon,

one hundred inches in length, throws a shadow seventy-seven inches long; the length of the longest day is fourteen equinoctial hours and a half, plus one thirtieth of an hour.

Under the fourth circle or parallel lie those parts of India which are on the other side of the Imaüs, the southern parts of Cappadocia, Galatia, Mysia, Sardis, Smyrna, Sipylus, Mount Tmolus, Lydia, Caria, Ionia, Tralles, Colophon, Ephesus, Miletus, Chios, Samos, the Icarian Sea, the northern part of the Cyclades, Athens, Megara, Corinth, Sicyon, Achaia, Patræ, the Isthmus, Epirus, the northern parts of Sicily, the eastern parts of Gallia Narbonensis, and the sea-coast of Spain, from New Carthage westward. In these districts a gnomon of twenty-one feet throws a shadow of sixteen feet in length; the longest day contains fourteen equinoctial hours and two-thirds of an hour.

Under the fifth zone are included, from the entrance to the Caspian Sea, the Bactri, Iberia, Armenia, Mysia, Phrygia, the Hellespont, Troas, Tenedos, Abydos, Scepsis, Ilium, Mount Ida, Cyzicus, Lampsacus, Sinope, Amisus, Heraclea in Pontus, Paphlagonia, Lemnos, Imbros, Thasos, Cassandria, Thessaly, Macedonia, Larissa, Amphipolis, Thessalonica, Pella, Edessa, Berœa, Pharsalia, Carystus, Eubœa in Bœotia, Chalcis, Delphi, Acarnania, Ætolia, Apollonia, Brudisium, Tarentum, Thurii, Locri, Rhegium, the Lucani, Neapolis, Puteoli, the Tuscan Sea, Corsica, the Balearic Islands, and the middle of Spain. A gnomon, seven feet in length, in these countries gives a shadow of six feet, and the length of the day is fifteen equinoctial hours.

The sixth division, in which Rome is included, embraces the Caspian nations, Caucasus, the northern parts of Armenia, Apollonia on the Rhyndacus, Nicomedia, Nicæa, Chalcedon, Byzantium, Lysimachia, the Chersonnesus, the Gulf of Melas, Abdera, Samothracia, Maronea, Ænus, Bessica, Thracia, Mædica, Pæonia, the Illyrii, Dyrrhachium, Canusium, the extreme parts of Apulia, Campania, Etruria, Pisæ, Luna, Luca, Genua, Liguria, Antipolis, Massilia, Narbo, Tarraco, the middle parts of Hispania Tarraconensis, and thence through Lusitania. A gnomon of nine feet here throws a shadow eight feet long; the greatest length of the day is fifteen equinoctial hours, plus one-ninth part of an hour, or, according to Nigidius, one-fifth.

The seventh division begins on the other side of the Caspian

Sea, and the line runs above Callatis, and through the Bosporus, the Borysthenes, Tomi, the back part of Thrace, the Triballi, the remainder of Illyricum, the Adriatic Sea, Aquileia, Altinum, Venetia, Vicetia, Patavium, Verona, Cremona, Ravenna, Ancona, Picenum, the Marsi, the Peligni, the Sabini, Umbria, Ariminum, Bononia, Placentia, Mediolanum, all the districts at the foot of the Apennines, and, beyond the Alps, Gallia Aquitanica, Vienna, the Pyrenæan range, and Celtiberia. A gnomon thirty-five feet in length here throws a shadow of thirty-six feet, except in some parts of Venetia, where the shadow just equals the length of the gnomon; the longest day is fifteen equinoctial hours, plus three-fifths of an hour.

Thus far we have set forth the results of observations made by the ancients. The remaining part of the earth has been divided, through the careful researches of those of more recent times, by three additional parallels. The first runs from the Tanais through the Mæotis and the country of the Sarmatæ, as far as the Borysthenes, and so through the Daci and part of Germany, and the Gallic provinces, as far as the shores of the ocean, the longest day being sixteen hours.

The second parallel runs through the country of the Hyperborei and the island of Britannia, the longest day being seventeen hours in length.

The last of all is the Scythian parallel, which runs from the Riphæan range to Thule, in which, as we have already stated,[82] the year is divided into days and nights alternately, of six months' duration. The same authors have also placed before the first parallel, which we have here given,[83] two other parallels or circles; the first running through the island of Meroë and the city of Ptolemais which was built on the Red Sea for the chase of the elephant; where the longest day is twelve hours and a half in length; and the second passing through Syene in Egypt, in which the longest day is thirteen hours in length. The same authors have also added half an hour to each of the parallels, till they come to the last.

Thus far on the Geography of the earth.

SUMMARY.—Towns mentioned, eleven hundred and ninety-four. Nations, five hundred and seventy-six. Noted rivers,

[82] B. iv. c. 26. [83] In p. 111.

one hundred and fifteen. Famous mountains, thirty-eight. Islands, one hundred and eight. Peoples or towns no longer in existence, ninety-five. Remarkable events, narratives, and observations, two thousand two hundred and fourteen.

ROMAN AUTHORS QUOTED.—M. Agrippa,[83] M. Varro,[84] Varro Atacinus,[85] Cornelius Nepos,[86] Hyginus,[87] L. Vetus,[88] Mela Pomponius,[89] Domitius Corbulo,[90] Licinius Mucianus,[91] Claudius Cæsar,[92] Arruntius,[93] Sebosus,[94] Fabricius Tuscus,[95] T. Livius,[96] Seneca,[97] Nigidius.[98]

FOREIGN AUTHORS QUOTED. — King Juba,[99] Hecatæus,[1] Hellenicus,[2] Damastes,[3] Eudoxus,[4] Dicæarchus,[5] Bæton,[6]

[83] See end of B. iii.
[84] See end of B. ii.
[85] See end of B. iii.
[86] See end of B. ii.
[87] See end of B. iii.
[88] See end of B. iii.
[89] See end of B. iii.
[90] See end of B. v.
[91] See end of B. ii.
[92] See end of B. v.
[93] See end of B. iii.
[94] See end of B. ii.
[95] See end of B. iii.

[96] The famous Roman historian, a native of Padua. He died at his native town, in the year A.D. 17, aged 76. Of his Annals, composed in 142, only 35 Books have come down to us.

[97] L. Annæus Seneca, the Roman philosopher and millionnaire. He was put to death by Nero.

[98] P. Nigidius Figulus, a Roman senator, and Pythagorean philosopher, skilled in astrology and other sciences. He was so celebrated for his knowledge, that Aulus Gellius pronounces him, next to Varro, the most learned of the Romans. He was an active partisan of Pompey, and was compelled by Cæsar to live at a distance from Rome. He died in exile, B.C. 44. There is a letter of consolation addressed to him by Cicero in his Epistles "ad Familiares," which contains a warm tribute to his worth and learning.

[99] See end of B. v.

[1] For Hecatæus of Miletus, see end of B. iv. Hecatæus of Abdera was a contemporary of Alexander the Great and Ptolemy Lagides. He is thought to have accompanied the former in his Asiatic expedition as far as Syria. He was a pupil of the sceptic Pyrrho, and is called a philosopher, critic, and grammarian. He was the author of a History of Egypt, a work on the Hyperborei, and a History of the Jews.

[2] See end of B. iv.

[3] See end of B. iv.

[4] For Eudoxus of Cnidos, see end of B. ii. Eudoxus of Cyzicus was a geographer and a native of Egypt, who was employed by Ptolemy Euergetes and his wife Cleopatra in voyages to India. He made attempts to circumnavigate Africa by sailing to the south, but without success. He is supposed to have lived about B.C. 130. See B. ii. c. 67 of the present work.

[5] See end of B. ii.

[6] See end of B. v.

Timosthenes,[7] Patrocles,[8] Demodamas,[9] Clitarchus,[10] Eratosthenes,[11] Alexander the Great,[12] Ephorus,[13] Hipparchus,[14] Panætius,[15] Callimachus,[16] Artemidorus,[17] Apollodorus,[18] Agathocles,[19] Polybius,[20] Eumachus,[21] Timæus Siculus,[22] Alexander Polyhistor,[23] Isidorus,[24] Amometus,[25] Metrodorus,[26] Posidonius,[27] Onesicritus,[28] Nearchus,[29] Megasthenes,[30] Diognetus,[31] Aristocreon,[32] Bion,[33] Dalion,[34]

[7] See end of B. iv.

[8] He commanded the fleets of Ptolemy Philadelphus, and of Seleucus Nicator, by whose orders he paid a visit to the coasts of India. Strabo speaks of his account of India as the best guide to the geography of that country.

[9] A native of Miletus—see the tenth Chapter of this Book. He appears to have written a geographical work on Asia, from which Pliny derived considerable assistance.

[10] Son of Deinon, the historian; he accompanied Alexander in his Asiatic expedition, and wrote a history of it. Quintus Curtius censures him for his inaccuracy. Cicero, Quintilian, and Longinus, also speak in slighting terms of his performance.

[11] See end of B. ii.

[12] He alludes to the letters of that monarch, and the journals which were kept on the occasion of his expeditions. In the middle ages several forged works were current under his name.

[13] See end of B. iv.

[14] See end of B. ii.

[15] See end of B. v.

[16] See end of B. iv.

[17] See end of B. ii.

[18] See end of B. iv.

[19] See end of B. iv.

[20] See end of B. iv.

[21] See end of B. iv.

[22] See end of B. iv.

[23] See end of B. iii.

[24] See end of B. ii.

[25] A Greek writer of uncertain date, who wrote, as Pliny tells us, (c. 20 of the present Book), a work on the people called Attaci, or Attacori. He also wrote another, describing a voyage, commenced at Memphis in Egypt.

[26] See end of B. iii.

[27] See end of B. ii.

[28] See end of B. ii.

[29] The admiral of Alexander, who sailed down the river Indus, and up the Persian Gulf. It is not known when or where he died. After the death of Alexander, he supported the cause of Antigonus. He left a history or journal of his famous voyage.

[30] See end of B. v.

[31] Mentioned by Pliny in c. 21. He measured the distances of the marches of Alexander the Great, and wrote a book on the subject.

[32] See end of B. v.

[33] A native of Soli. He is mentioned by Diogenes Laertius, as the author of a work on Æthiopia, of which some few fragments are preserved. Varro and Pliny mention him, also, as a writer on agriculture.

[34] A writer on geography and botany, again mentioned by Pliny in B. xx. c. 73. He is supposed to have lived in the first century after Christ. See also c. 35.

the Younger Simonides,[35] Basilis,[36] Xenophon[37] of Lampsacus.

[35] Said to have been a native of Meroë, and to have written a History of Æthiopia; nothing else seems to be known of him.

[36] The author of a work on India, of which the second Book is quoted by Athenæus. From what Pliny says, in c. 35, he seems to have also written on Æthiopia. He is mentioned by Agatharchides as one of the writers on the East: but nothing more seems to be known of him.

[37] See end of B. iii.

BOOK VII.[1]

MAN, HIS BIRTH, HIS ORGANIZATION, AND THE INVENTION OF THE ARTS.

CHAP. 1.—MAN.

Such then is the present state of the world, and of the countries, nations, more remarkable seas, islands, and cities which it contains.[2] The nature of the animated beings which exist upon it, is hardly in any degree less worthy of our contemplation than its other features; if, indeed, the human mind is able to embrace the whole of so diversified a subject. Our first attention is justly due to Man, for whose sake all other things appear to have been produced by Nature; though, on the other hand, with so great and so severe penalties for the enjoyment of her bounteous gifts, that it is far from easy to determine, whether she has proved to him a kind parent, or a merciless step-mother.

In the first place, she obliges him alone, of all animated beings, to clothe himself with the spoils of the others; while, to all the rest, she has given various kinds of coverings, such as shells, crusts, spines, hides, furs, bristles, hair, down, feathers, scales, and fleeces.[3] The very trunks of the trees even, she has protected against the effects of heat and cold by a bark, which is, in some cases, twofold.[4] Man alone, at the very moment of

[1] We here enter upon the third division of Pliny's Natural History, which treats of Zoology, from the 7th to the 11th inclusive. Cuvier has illustrated this part by many valuable notes, which originally appeared in Lemaire's *Bibliotheque Classique*, 1827, and were afterwards incorporated, with some additions, by Ajasson, in his translation of Pliny, published in 1829; Ajasson is the editor of this portion of Pliny's Natural History, in Lemaire's Edition.—B.

[2] This remark refers to the five preceding books, in which these subjects have been treated in detail.—B.

[3] We have a similar remark in Cicero, De. Nat. Deor. ii. 47.—B.

[4] Ajasson remarks, that trees have two barks, an outer, and an inner and thinner one; but seems to think that by the word "gemino" here, Pliny only means that the bark of trees is sometimes double its ordinary thickness.

his birth cast naked upon the naked earth,[5] does she abandon to cries, to lamentations, and, a thing that is the case with no other animal whatever, to tears: this, too, from the very moment that he enters upon existence.[6] But as for laughter, why, by Hercules!—to laugh, if but for an instant only, has never been granted to man before the fortieth day[7] from his birth, and then it is looked upon as a miracle of precocity. Introduced thus to the light, man has fetters and swathings instantly put upon all his limbs,[8] a thing that falls to the lot of none of the brutes even that are born among us. Born to such singular good fortune,[9] there lies the animal, which is destined to command all the others, lies, fast bound hand and foot, and weeping aloud! such being the penalty which he has to pay on beginning life, and that for the sole fault of having been born. Alas! for the folly of those who can think after such a beginning as this, that they have been born for the display of vanity!

The earliest presage of future strength, the earliest bounty of time, confers upon him nought but the resemblance to a quadruped.[10] How soon does man gain the power of walking? How soon does he gain the faculty of speech? How soon is his mouth fitted for mastication? How long are the pulsations of the crown of his head to proclaim him the weakest of all ani-

[5] It seems to have been the custom among the ancients to place the newborn child upon the ground immediately after its birth.

[6] Pliny appears to have followed Lucretius in this gloomy view of the commencement of human existence. See B. v. l. 223, *et seq.*

[7] This term of forty days is mentioned by Aristotle, in his Natural History, as also by some modern physiologists.—B.

[8] We may hence conclude, that the practice of swathing young infants in tight bandages prevailed at Rome, in the time of Pliny, as it still does in France, and many parts of the continent; although it has, for some years, been generally discontinued in this country. Buffon warmly condemned this injurious system, eighty years ago, but without effect.—B.

[9] "Feliciter natus;" this appears so inconsistent with what is stated in the text, that it has been proposed to alter it into *infeliciter*, although against the authority of all the MSS.; but it may be supposed, that Pliny, as is not unusual with him, employs the term ironically.—B.

[10] This reminds us of the terms of the riddle proposed to Œdipus by the Sphinx: "What being is that, which, with four feet, has two feet and three feet, and only one voice; but its feet vary, and where it has most it is weakest?" to which he answered, That it is man, who is a quadruped (going on feet and hands) in childhood, two-footed in manhood, and moving with the aid of a staff in old age.

mated beings?[11] And then, the diseases to which he is subject, the numerous remedies which he is obliged to devise against his maladies, and those thwarted every now and then by new forms and features of disease.[12] While other animals have an instinctive knowledge of their natural powers; some, of their swiftness of pace, some of their rapidity of flight, and some again of their power of swimming; man is the only one that knows nothing, that can learn nothing without being taught; he can neither speak, nor walk, nor eat,[13] and, in short, he can do nothing, at the prompting of nature only, but weep. For this it is, that many have been of opinion, that it were better not to have been born, or if born, to have been annihilated[14] at the earliest possible moment.

To man alone, of all animated beings, has it been given, to grieve,[15] to him alone to be guilty of luxury and excess; and that in modes innumerable, and in every part of his body. Man is the only being that is a prey to ambition, to avarice, to

[11] He alludes to the gradual induration of the bones of the head which takes place in the young of the human species, and imparts strength to it. Aristotle, in his Hist. Anim., states the general opinion of the ancients, that this takes place with the young of no other class of animated beings.

[12] There is little doubt that new forms and features of disease are continually making their appearance among mankind, and even the same peoples, and have been from the earliest period; it was so at Rome, in the days of the Republic and of the Emperors. It is not improbable that these new forms of disease depend greatly upon changes in the temperature and diet. The plagues of 1348, 1666, and the Asiatic cholera of the present day, are not improbably various features of what may be radically the same disease. At the first period the beverage of the English was beer, or rather sweet-wort, as the hop does not appear to have been used till a later period. At the present day, tea and coffee, supported by ardent spirits, form the almost universal beverage.

[13] Pliny forgets, however, that infants do *not* require to be taught how to suck.

[14] According to Cicero, this opinion was more particularly expressed by Silenus and Euripides. Seneca also, in his Consolation to Marcia, expresses a very similar opinion. It was a very common saying, that "Those whom the gods love, die young." It will be observed that Pliny here uses the significant word "aboleri," implying utter annihilation after death. It will be seen towards the end of this Book, that he laughed to scorn the notion of the immortality of the soul.

[15] By the use of the word "luctus" he may probably mean "tears;" but there is little doubt that all animals have their full share of sorrows, brought upon them either by the tyranny and cruelty of man, or their own unrestrained passions.

an immoderate desire of life,[16] to superstition,[17]—he is the only one that troubles himself about his burial, and even what is to become of him after death.[18] By none is life held on a tenure more frail;[19] none are more influenced by unbridled desires for all things; none are sensible of fears more bewildering; none are actuated by rage more frantic and violent. Other animals, in fine, live at peace with those of their own kind; we only see them unite to make a stand against those of a different species. The fierceness of the lion is not expended in fighting with its own kind; the sting of the serpent is not aimed at the serpent;[20] and the monsters of the sea even, and the fishes, vent their rage only on those of a different species. But with man,—by Hercules! most of *his* misfortunes are occasioned by man.[21]

(1.) We have already given[22] a general description of the human race in our account of the different nations. Nor, indeed, do I now propose to treat of their manners and customs, which are of infinite variety and almost as numerous as the various groups themselves, into which mankind is divided; but yet there are some things, which, I think, ought not to be omitted;

[16] This is said hyperbolically by Pliny. The brutes of the field have as strong a love of life as man, although they may not be in fear of death, not knowing what it is. That they know what pain is, is evident from their instinctive attempts to avoid it.

[17] Under this name he evidently intends to include all systems of religion, which he held in equal contempt.

[18] Ajasson seems to think that he alludes to man's craving desire for posthumous fame; but it is pretty clear that he has in view the then prevalent notions of the life of the soul after the death of the body.

[19] Pascal has a similar thought; he says that "Man is a reed, and the weakest reed of nature." The machinery of his body is minute and complex in the extreme, but it can hardly be said that his life is exposed to as many dangers dependent on the volition of, or on accidents arising from, other animated beings, as that of minute insects.

[20] Ajasson refers to various classical authors for a similar statement. It is scarcely necessary to remark, that it is contrary to many well-known facts.—B. The cravings of hunger and of the sexual appetite, are quite sufficient to preclude the possibility of such a happy state of things among the brutes as Pliny here describes.

[21] It was this feeling that prompted the common saying among the ancients, "Homo homini lupus"—"Man to man is a wolf;" and most true it is, that

"Man's inhumanity to man makes countless thousands mourn."

[22] He alludes to the description already given in his geographical Books, of man taken in the aggregate, and grouped into nations.

and more particularly, in relation to those peoples which dwell at a considerable distance from the sea;[23] among which, I have no doubt, that some facts will appear of an astounding nature, and, indeed, incredible to many. Who, for instance, could ever believe in the existence of the Æthiopians, who had not first seen them? Indeed what is there that does not appear marvellous, when it comes to our knowledge for the first time?[24] How many things, too, are looked upon as quite impossible, until they have been actually effected?[25] But it is the fact, that every moment of our existence we are distrusting the power and the majesty of Nature, if the mind, instead of grasping her in her entirety, considers her only in detail. Not to speak of peacocks, the spotted skins of tigers and panthers, and the rich colours of so many animals, a trifling thing apparently to speak of, but of inestimable importance, when we give it due consideration, is the existence of so many languages among the various nations, so many modes of speech, so great a variety of expressions; that to another, a man who is of a different country, is almost the same as no man at all.[26] And then, too, the human features and countenance, although composed of but some ten parts or little more, are so fashioned, that among so many thousands of men, there are no two in existence who cannot be distinguished from one another, a result which no art could possibly have produced, when confined to so limited a number of combinations. In most points, however, of this nature, I shall not be content to pledge my own credit only, but shall confirm it in preference by referring to my authorities, which shall be given on all subjects of a nature to inspire doubt. My readers, however, must make no objection to following the Greeks, who have proved them-

[23] These are less known, as being less easy of access to travellers, and it is accordingly in connection with these, that we always meet with the most wonderful tales.—B.

[24] This feeling is well expressed in the old and hackneyed adage, "Omne ignotum pro mirifico"—"Everything that is unknown is taken for marvellous."

[25] Cuvier remarks, that Pliny generally employs this kind of oratorical language when he is entering upon a part of his work in which he betrays a peculiar degree of credulity, and a total want of correct judgment on physical topics.—B.

[26] Being debarred from holding converse, the first great tie of sociality.

selves the most careful observers, as well as of the longest standing.[28]

CHAP. 2.—THE WONDERFUL FORMS OF DIFFERENT NATIONS.

We have already stated, that there are certain tribes of the Scythians, and, indeed, many other nations, which feed upon human flesh.[29] This fact itself might, perhaps, appear incredible, did we not recollect, that in the very centre of the earth, in Italy and Sicily, nations formerly existed with these monstrous propensities, the Cyclopes,[30] and the Læstrygones, for example; and that, very recently, on the other side of the Alps, it was the custom to offer human sacrifices, after the manner of those nations;[31] and the difference is but small between sacrificing human beings and eating them.[32]

In the vicinity also of those who dwell in the northern re-

[28] Ajasson does not hesitate to style this remark, "ridiculum sane;" as every one knows that the Greeks were more noted for their lively imagination, than for the correctness of their observations.—B. Surely Ajasson must have forgotten the existence of such men as Aristotle and Theophrastus!

[29] Pliny has previously denominated the Scythians "Anthropophagi;" and in B. iv. c. 26, and B. vi. c. 20, he employs the word as the proper name of one of the Scythian tribes.—B.

[30] See B. iii. c. 9.

[31] See B. xxxvi. c. 5.

[32] There can be no doubt, that cannibalism has existed at all times, and that it now exists in some of the Asiatic and Polynesian islands; but we must differ from Pliny in his opinion respecting the near connection between human sacrifices and cannibalism; the first was strictly a religious rite, the other was the result of very different causes; perhaps, in some cases, the want of food; but, in most instances, a much less pardonable motive.—B. Still, however, if nations go so far as to sacrifice human beings, there is an equal chance that a religious impulse may prompt them to taste the flesh; and when once this has been done, there is no telling how soon it may be repeated, and that too for the gratification of the palate. According to Macrobius, human sacrifices were offered at Rome, down to the time of Brutus, who, on the establishment of the Republic, abolished them. We read, however, in other authorities, that in 116, B.C., two Gauls, a male and a female, were sacrificed by the priests in one of the streets of Rome, shortly after which such practices were forbidden by the senate, except in those cases in which they had been ordered by the Sibylline books. Still we read, in the time of Augustus, of one hundred knights being sacrificed by his orders, at Perusia, and of a similar immolation in the time of the emperor Aurelian, A.D. 270. These, however, were all exceptional cases, and do not imply a custom of offering human sacrifices.

gions, and not far from the spot from which the north wind arises, and the place which is called its cave,[33] and is known by the name of Geskleithron, the Arimaspi are said to exist, whom I have previously mentioned,[34] a nation remarkable for having but one eye, and that placed in the middle of the forehead. This race is said to carry on a perpetual warfare with the Griffins, a kind of monster, with wings, as they are commonly[35] represented, for the gold which they dig out of the mines, and which these wild beasts retain and keep watch over with a singular degree of cupidity, while the Arimaspi are equally desirous to get possession of it.[36] Many authors have stated to

[33] Pliny, in describing the Riphæan mountains, B. iv. c. 26, calls them "gelida Aquilonis conceptacula," "the cold asylum of the northern blasts;" but we do not find the cavern mentioned in this or any other passage. The name here employed has been supposed to be derived from the Greek words, γης κλειθρον, signifying the limit or boundary of the earth.—B. "Specuque ejus dicto," most probably means "the place called its cave," and not the "cave which I have described," as Dr. B. seems to have thought.

[34] They are merely enumerated among other tribes of Scythians, inhabiting the country beyond the Palus Mæotis. See B. iv. c. 26, and B. vi. c. 19.—B.

[35] The figures of the Gryphons or Griffins are found not uncommonly on the friezes and walls at Pompeii. In the East, where there were no safe places of deposit for money, it was the custom to bury it in the earth; hence, for the purpose of scaring depredators, the story was carefully circulated that hidden treasures were guarded by serpents and dragons. There can be little doubt that these stories, on arriving in the western world, combined with the knowledge of the existence of gold in the Uralian chain and other mountains of the East, gave rise to the stories of the Griffins and the Arimaspi. It has been suggested that the Arimaspi were no other than the modern Tsheremis, who dwelt on the left bank of the Middle Volga, in the governments of Kasan, Simbirsk, and Saratov, not far from the gold districts of the Uralian range.

[36] It has been conjectured, that these fabulous tales of the combats of the Arimaspi with the Griffins, were invented by the neighbouring tribes of the Issedonæ or Essedones, who were anxious to throw a mystery over the origin of the gold, that they might preserve the traffic in their own hands. The Altai Mountains, in the north of Asia, contain many gold mines, which are still worked, as well as traces of former workings. The representation of an animal, somewhat similar to the Griffin, has been found among the sculptures of Persepolis, and is conceived to have had some allegorical allusion to the religion of the ancient inhabitants of the place. Ælian, Hist. Anim. B. iv. c. 27, gives an account of the Griffin, and its contests with the Indians, for the gold, similar to that here given.—B.

this effect, among the most illustrious of whom are Herodotus and Aristeas of Proconnesus.[38]

Beyond the other Scythian Anthropophagi, there is a country called Abarimon, situate in a certain great valley of Mount Imaus,[39] the inhabitants of which are a savage race, whose feet are turned backwards,[40] relatively to their legs: they possess wonderful velocity, and wander about indiscriminately with the wild beasts. We learn from Beeton, whose duty it was to take the measurements of the routes of Alexander the Great, that this people cannot breathe in any climate except their own, for which reason it is impossible to take them before any of the neighbouring kings; nor could any of them be brought before Alexander himself.

The Anthropophagi, whom we have previously mentioned[41] as dwelling ten days' journey beyond the Borysthenes, according to the account of Isigonus of Nicæa, were in the habit of drinking out of human skulls,[42] and placing the scalps, with the hair attached, upon their breasts, like so many napkins. The same author relates, that there is, in Albania, a certain race of men, whose eyes are of a sea-green colour, and who have white hair from their earliest childhood,[43] and that these people see better in the night than in the day. He states also

[38] We have an account of the Arimaspi, and of Aristeas, in Herodotus, B. iv. cc. 13, 15, and 27. Most of the wonderful tales related in this Chapter may be found in Aulus Gellius, B. ix. c. 4. We have an account, also, of the Arimaspi in Solinus, very nearly in the words of Pliny. We have some valuable remarks by Cuvier, on the account given by Pliny of the Arimaspi and the Griffins, and on the source from which it appears to have originated, in Lemaire, vol. iii. p. 16, and Ajasson, vol. vi. pp. 164, 165.—B.

[39] The modern Himalaya range.

[40] Aulus Gellius relates this, among other wonderful tales, which are contained in his Chapter "On the Miraculous Wonders of Barbarous Nations," B. ix. c. 4. He cites, among his authorities, Aristeas and Isigonus, whom he designates as "writers of no mean authority."—B.

[41] In B. iv. c. 26, and B. vi. c. 29.

[42] One of the pleasures promised to the Gothic warriors, in the paradise of Odin, was to drink out of the skulls of their enemies.—B.

[43] The variety of the human species to which the term Albino has been applied, from the whiteness of their hair and skin, is supposed by Cuvier to be more frequently found in the close valleys of mountainous districts, and may therefore have been very often met with in Albania, which is composed of valleys in the Caucasian range.—B.

that the Sauromatæ, who dwell ten days' journey beyond the Borysthenes, only take food every other day.[44]

Crates of Pergamus relates, that there formerly existed in the vicinity of Parium, in the Hellespont, a race of men whom he calls Ophiogenes, and that by their touch they were able to cure those who had been stung by serpents, extracting the poison by the mere imposition of the hand.[45] Varro tells us, that there are still a few individuals in that district, whose saliva effectually cures the stings of serpents. The same, too, was the case with the tribe of the Psylli,[46] in Africa, according to the account of Agatharchides; these people received their name from Psyllus, one of their kings, whose tomb is in existence, in the district of the Greater Syrtes. In the bodies of these people there was by nature a certain kind of poison, which was fatal to serpents, and the odour of which overpowered them with torpor: with them it was a custom to expose children immediately after their birth to the fiercest serpents, and in this manner to make proof of the fidelity of their wives, the serpents not being repelled by such children as were the offspring of adultery.[47] This nation, however, was almost entirely extirpated by the slaughter made of them by the

[44] "Tertio die;" literally, "on the third day." In reckoning the time between two periods, the Romans included both of those periods in the computation, whereas we include but one of them.

[45] In countries where serpents abound, there have been, at all times, jugglers, who profess to have a supernatural power, by which they are rendered insensible to the poison of these animals. This is the case with the Egyptians, and some of the oriental nations. They remove the poison-fang from the serpent, and in this way render it perfectly harmless. Some of the feats which were performed by the magicians in the court of Pharaoh, seem still to be practised in Egypt; by pressing upon the upper part of the spine, the animal is rendered rigid, while on removing the pressure, the animal is restored to its original state. These jugglers were also in the habit, much to the surprise of the ignorant spectators, of sucking the poison from the wounds produced by the bite of the serpent, which they accompanied by various ceremonies and incantations: but it is a well-known fact, that this may be done with perfect safety, in reference to poisons of all kinds, provided there be no breach in the cuticle of the mouth or lips.—B.

[46] See B. xxviii. c. 7. The best account, probably, of the Psylli, is that found in Lucan's Pharsalia, B. ix. c. 890, *et. seq.*

[47] This custom is referred to by Lucan, in his account of the Psylli, B. ix. l. 890, *et seq.*; and by Ælian, Hist. Anim. B. i. c. 57, and B. xvi. c. 27, 28.—B.

Nasamones, who now occupy their territory.[48] This race, however, still survives in a few persons who are descendants of those who either took to flight or else were absent on the occasion of the battle. The Marsi, in Italy, are still in possession of the same power, for which, it is said, they are indebted to their origin from the son of Circe, from whom they acquired it as a natural quality. But the fact is, that all men possess in their bodies a poison which acts upon serpents, and the human saliva, it is said, makes them take to flight, as though they had been touched with boiling water. The same substance, it is said, destroys them the moment it enters their throat, and more particularly so, if it should happen to be the saliva of a man who is fasting.[49]

Above the Nasamones,[50] and the Machlyæ, who border upon them, are found, as we learn from Calliphanes, the nation of the Androgyni, a people who unite the two sexes in the same individual, and alternately perform the functions of each. Aristotle also states, that their right breast is that of a male, the left that of a female.[51]

Isigonus and Nymphodorus inform us that there are in Africa certain families of enchanters,[52] who, by means of their charms, in the form of commendations, can cause cattle to perish, trees to wither, and infants to die. Isigonus adds, that

[48] Herodotus, B. iv. c. 173, gives a somewhat different account; see also Aulus Gellius, B. xvi. c. 11, who follows the narrative of Herodotus. Gellius also gives an account of the Marsi, which is similar to that of Pliny.—B.

[49] It is scarcely necessary to remark, that this alleged effect of the human saliva is without foundation. The saliva of a person who has fasted for some time, is still, in this country, a popular remedy for ophthalmia. It contains a greater proportion of saline matter than saliva under ordinary circumstances.—B.

[50] The Nasamones have been enumerated among the inhabitants of the northern part of Africa, near the Greater Syrtis, v. 5. See also Herodotus, B. ii. c. 32, and B. vi. c. 172 and 190.—B.

[51] Certain individuals are occasionally met with, whose generative organs exhibit an unusual formation, so as to give the idea of their uniting both sexes in the same person; and there are instances where parts peculiar to both sexes actually appear to exist, but always in an imperfect or rudimentary state; all beyond this is undoubtedly fabulous. See *Todd's Cyclop. of Anat. in loco.*—B.

[52] There are, at the present day, individuals among the negroes, who profess to have the power of enchantment, which, however, appears to consist in their possessing the knowledge of various poisons, which they not unfrequently administer, and by these means obtain great influence over the minds of the people.—B.

there are among the Triballi and the Illyrii, some persons of this description, who also have the power of fascination with the eyes, and can even kill those on whom they fix their gaze for any length of time, more especially if their look denotes anger; the age of puberty is said to be particularly obnoxious to the malign influence of such persons.[53]

A still more remarkable circumstance is, the fact that these persons have two pupils in each eye.[54] Apollonides says, that there are certain females of this description in Scythia, who are known as Bythiæ, and Phylarchus states that a tribe of the Thibii in Pontus, and many other persons as well, have a double pupil in one eye, and in the other the figure of a horse.[55] He also remarks, that the bodies of these persons will not sink in water,[56] even though weighed down by their garments.

[53] This power of the eye is referred to by Virgil, Ecl. iii. l. 103:

"What eye is it that has fascinated my tender lambs?"

The evil eye is still an article of belief in Egypt and in some parts of the East. Witchcraft, in various forms, was greatly credited in the most enlightened parts of Europe, not more than two centuries ago, and is not yet excluded from the vulgar creed.—B.

[54] It is well known that nothing of this kind was ever observed in any human eye, nor have we any method of accounting for the origin of this singular notion.—B. Brand, in his Popular Antiquities, says that he has no doubt whatever that the common expression "no one can say 'black is my eye'" [or rather "black is the white of my eye"]—meaning that no one can justly speak ill of me, was derived from the notion of the *enchanting*, or *bewitching*, eye. He quotes from Reginald Scott's "Discovery of Witchcraft:" "Many writers agree with Virgil and Theocritus in the effect of bewitching eyes, affirming 'that in Scythia there are women called the Bythiæ, having two balls, or rather *blacks*, in the apples of their eyes.' These, forsooth, with their angry looks, do bewitch and hurt, not only young lambs, but young children." See Brand's Popular Antiquities, vol. iii. pp. 44—46. See also Ennemoser's Hist. of Magic, vol. ii. pp. 160, 161. *Bohn's Editions.*

[55] Some of the commentators have supposed, that Pliny, or Phylarchus, from whom he borrows, was misled by the ambiguity of the Greek term ἵππος, which signifies either a horse, or a tremulous motion of the eye. But, even admitting this to be the case, the wonder is scarcely diminished; for we have the double pupil in one eye, while this supposed tremulous motion is confined to the other.—B.

[56] In all ages, it has been a prevalent superstition, that those endowed with magical qualities will not sink in water, encouraged, no doubt, by the cunning of those who might wish to make the charge a means of wreaking their vengeance. If they sank, they were to be deemed innocent, but were drowned; if, on the other hand they floated, they were deemed guilty, and handed over to the strong arm of the law. In reference to this usage,

Damon gives an account of a race of people, not very much unlike them, the Pharnaces of Æthiopia, whose perspiration is productive of consumption [57] to the body of every person that it touches. Cicero also, one of our own writers, makes the remark, that the glances of all women who have a double pupil is noxious.[58]

To this extent, then, has nature, when she produced in man, in common with the wild beasts, a taste for human flesh, thought fit to produce poisons as well in every part of his body, and in the eyes even of some persons, taking care that there should be no evil influence in existence, which was not to be found in the human body. Not far from the city of Rome, in the territory of the Falisci, a few families are found, who are known by the name of Hirpi. These people perform a yearly sacrifice to Apollo, on Mount Soracte, on which occasion they walk over a burning pile of wood, without being scorched even. On this account, by virtue of a decree of the senate, they are always exempted from military service, and from all other public duties.[59]

Some individuals, again, are born with certain parts of the body endowed with properties of a marvellous nature. Such was the case with King Pyrrhus, the great toe of whose right foot cured diseases of the spleen, merely by touching the patient.[60] We are also informed, that this toe could not be re-

Brand says ("Popular Antiquities," vol. iii.), "Swimming a witch was another kind of popular ordeal. By this method she was handled not less indecently than cruelly: for she was stripped naked and cross bound, the right thumb to the left toe, and the left thumb to the right toe. In this state she was cast into a pond or river, in which, if guilty, it was thought impossible for her to sink."

[57] This is probably the meaning of the word "tabem" here; though it may possibly signify "rottenness," or "putrefaction."

[58] This remark is not contained in any of the works of Cicero now extant.—B.

[59] Cuvier observes, that these people probably exercise some deception, analogous to that practised by a Spaniard, who exhibited himself in Paris, and professed to be incombustible, but who, eventually, was the dupe of his own quackery, and paid the penalty with his life. It would appear, that the Hirpi were not confined to one district, but dispersed over different parts of Italy. See the note of Heyne, on the prayer of Aruns, Æn. B. xi. l. 785, *et seq.*—B.

[60] Plutarch relates these supposed facts in his life of Pyrrhus; this statement may be considered analogous to what has been recorded in modern times, respecting the efficacy of the royal touch in curing certain diseases, especially what has been termed the "King's evil."—B.

duced to ashes together with the other portions of his body; upon which it was placed in a coffer, and preserved in a temple.

India, and the region of Æthiopia more especially, abounds in wonders.[61] In India the largest of animals are produced; their dogs,[62] for example, are much bigger than those of any other country.[63] The trees, too, are said to be of such vast height, that it is impossible to send an arrow over them. This is the result of the singular fertility of the soil, the equable temperature of the atmosphere, and the abundance of water; which, if we are to believe what is said, are such, that a single fig-tree[64] is capable of affording shelter to a whole troop of horse. The reeds here are also of such enormous length, that each portion of them, between the joints, forms a tube, of which a boat is made that is capable of holding three men.[65] It is a well-known fact, that many of the people here are more than five cubits in height.[66] These people never expectorate, are subject to no pains, either in the head, the teeth, or the eyes, and rarely in any other parts of the body; so well is the heat of the sun calculated to strengthen the constitution. Their philosophers, who are called Gymnosophists, remain in one posture, with their eyes immovably fixed upon the sun, from its rising to its setting, and, during the whole of the day, they are accustomed to stand in the burning sands on one foot, first one and then the other.[67] According to the ac-

[61] Horace, Odes, B. i. O. 22, characterises the Hydaspes, a river of India, by the title of "fabulosus."—B.

[62] See B. viii. c. 40.

[63] Ælian, Hist. Anim. B. xvi. c. 11, and B. xvii. c. 26, refers to the large size of many of the animals of India; and in B. iv. c. 19, he especially describes the size and fierceness of the Indian dog.—B.

[64] The *Ficus religiosa* of Linnæus, the branches of which have the property of taking root when they are bent down to the ground, and of forming new stems, which again produce other branches, that may be bent down in the same way, so as to cover an indefinite space.—B. More popularly known as the "banyan tree." See B. xii. c. 11.

[65] The *bambos arundinacea*, or bamboo cane, is a reed or plant of the gramineous kind, which frequently grows to the height of the tallest trees. The stem is hollow, and the parts of it between the joints are used by the natives to form their canoes. We have an account of them in Herodotus, B. iii. c. 98.—B. See also B. xvi. c. 65 of this work.

[66] It does not appear that the stature of the Indians exceeds that of the inhabitants of the temperate zones.—B.

[67] Some practices very similar to these exist in certain parts of India,

count of Megasthenes, dwelling upon a mountain called Nulo, there is a race of men who have their feet turned backwards,[68] with eight toes on each foot.[69]

On many of the mountains again, there is a tribe of men who have the heads of dogs,[70] and clothe themselves with the skins of wild beasts. Instead of speaking, they bark; and, furnished with claws, they live by hunting and catching birds. According to the story, as given by Ctesias, the number of these people is more than a hundred and twenty thousand: and the same author tells us, that there is a certain race in India, of which the females are pregnant once only in the course of their lives, and that the hair of the children becomes white the instant they are born. He speaks also of another race of men, who are known as Monocoli,[71] who have only one leg, but are able to leap with surprising agility.[72] The same people are also called Sciapodæ,[73] because they are in the habit of lying on their backs, during the time of the extreme heat, and protect themselves from the sun by the shade of their feet. These people, he says, dwell not very far from the Troglodytæ;[74] to the west of whom again there is a tribe who are without necks, and have eyes in their shoulders.[75]

by the Fakirs, a peculiar class of devotees, and are regarded either in the light of religious ceremonies, or of modes of performing penance.—B.

[68] Henderson states, in his "Biblical Researches," that there is a race of people found in the Caucasus, and known as the Ingusch, and that it is their belief that a race of dæmons exists, which assume the appearance of armed men, and have the feet inverted.

[69] Cuvier remarks, that these wonderful tales are generally related of the inhabitants of mountainous districts, as being less known and less accessible to travellers.—B.

[70] This account probably originated in a species of monkey, with a projecting muzzle, called, from this circumstance, "cynocephalus," or the "Dog's head." This account of the cynocephali is repeated by Aulus Gellius, B. ix. c. 4.—B. The cynocephalus is generally considered to be the baboon.

[71] So called, *ἀπὸ τοῦ μονοῦ κώλου*, "from having but one leg." It is not improbable that these stories were first told of these nations from the resemblance of their names to the Greek words having these significations.

[72] We have no method of explaining the origin of this story. It is to be regretted, that Pliny should have adopted so many ridiculous fables, on the doubtful authority of Ctesias.—B.

[73] From *Σκιαποῦς*, "making a shadow with his foot."—B.

[74] Or "dwellers in caves."

[75] It has been conjectured, that this account may have originated in the dwarfish stature and short necks of the northern tribes, according to the

Among the mountainous districts of the eastern parts of India, in what is called the country of the Catharcludi, we find the Satyr,[76] an animal of extraordinary swiftness. These go sometimes on four feet, and sometimes walk erect; they have also the features of a human being. On account of their swiftness, these creatures are never to be caught, except when they are either aged or sickly. Tauron gives the name of Choromandæ to a nation which dwell in the woods and have no proper voice. These people screech in a frightful manner; their bodies are covered with hair, their eyes are of a sea-green colour, and their teeth like those of the dog.[77] Eudoxus tells us, that in the southern parts of India, the men have feet a cubit in length; while those of the women are so remarkably small, that they are called Struthopodes.[78]

Megasthenes places among the Nomades[79] of India, a people who are called Scyritæ. These have merely holes in their faces instead of nostrils, and flexible feet, like the body of the serpent. At the very extremity of India, on the eastern side, near the source of the river Ganges, there is the nation of the Astomi, a people who have no mouths; their bodies are rough and hairy, and they cover themselves with a down[80] plucked from the leaves of trees. These people subsist only by breathing and by the odours which they inhale through the

usual exaggerated statements of the ancient travellers. Aulus Gellius also repeats this fable, B. ix. c. 4.—B.

[76] These are the great apes, which are found in some of the Oriental islands; this name was given them from their salacious disposition, which, it would seem, they have manifested in reference to even the human species. We have an account of the Satyrs in Ælian, Hist. Anim. B. xvi. c. 21.—B.

[77] We may suppose that this description is taken from some incorrect account of a large kind of ape; but it seems impossible to refer it to any particular species.—B.

[78] "Sparrow," or "ostrich-footed;" it does not appear that the commentators have attempted to explain this passage; may we not conjecture that it refers to the Chinese? With respect to the word employed, it has been generally derived from *στρουθος*, "a sparrow;" Dalechamps, however, as it would appear, with much plausibility, thinks that it is derived from "struthio," the ostrich.—B. It is not improbable, however, that these were so called, from the resemblance of their gait to that of a sparrow, as they would be unable to step out, and be obliged to jump from place to place.

[79] Or "wandering tribes."

[80] On this subject see B. vi. c. 20. It is clear that either silk or cotton is here alluded to.

nostrils. They support themselves upon neither meat nor drink; when they go upon a long journey they only carry with them various odoriferous roots and flowers, and wild apples,[81] that they may not be without something to smell at. But an odour, which is a little more powerful than usual, easily destroys them.[82]

Beyond these people, and at the very extremity of the mountains, the Trispithami[83] and the Pygmies are said to exist; two races which are but three spans in height, that is to say, twenty-seven inches only. They enjoy a salubrious atmosphere, and a perpetual spring, being sheltered by the mountains from the northern blasts; it is these people that Homer[84] has mentioned as being waged war upon by cranes. It is said, that they are in the habit of going down every spring to the sea-shore, in a large body, seated on the backs of rams and goats, and armed with arrows, and there destroy the eggs and the young of those birds; that this expedition occupies them for the space of three months, and that otherwise it would be impossible for them to withstand the increasing multitudes of the cranes. Their cabins, it is said, are built of mud, mixed with feathers and egg-shells. Aristotle, indeed, says, that they dwell in caves; but, in all other respects, he gives the same details as other writers.[85]

Isigonus informs us, that the Cyrni, a people of India, live to their four hundredth year; and he is of opinion that the same is the case also with the Æthiopian Macrobii,[86] the Seræ, and the inhabitants of Mount Athos.[87] In the case of these

[81] In Eastern stories we find not uncommonly, wonderful effects attributed to the smell of the apple. See the Arabian Nights, *passim*.

[82] Cuvier remarks, that these accounts of the Struthopodes, the Scyritæ, and the Atomi, are not capable of any explanation, being mere fables.—B.

[83] From τρεῖς, "three," and σπιθαμαὶ, "spans," the span being about nine inches English.

[84] He alludes to the wars between the Cranes and the Pygmies in the Iliad, B. iii. l. 3—6. Their story is also referred to by Ovid and Juvenal.

[85] On the subject of the Pygmies, Cuvier remarks, "I am not surprised at finding the Pygmies in the works of Homer; but to find them in Pliny, I am surprised, indeed."—B.

[86] Or the "long livers," from the Greek μακρὸς, "long," and βίος, "life."

[87] Of course, there is no truth in this statement; there are, no doubt, various circumstances in these countries favourable to longevity; but these are more than counter-balanced by certain peculiarities in their mode of life, and by the fatal epidemics to which they are occasionally subject.—B.

last, it is supposed to be owing to the flesh of vipers, which they use as food;[88] in consequence of which, they are free also from all noxious animals, both in their hair and their garments.

According to Onesicritus, in those parts of India where there is no shadow,[89] the bodies of men attain a height of five cubits and two palms,[90] and their life is prolonged to one hundred and thirty years; they die without any symptoms of old age, and just as if they were in the middle period of life. Crates of Pergamus calls the Indians, whose age exceeds one hundred years, by the name of Gymnetæ;[91] but not a few authors style them Macrobii. Ctesias mentions a tribe of them, known by the name of Pandore, whose locality is in the valleys, and who live to their two hundredth year; their hair is white in youth, and becomes black in old age.[92] On the other hand, there are some people joining up to the country of the Macrobii, who never live beyond their fortieth year, and their females have children once only during their lives. This circumstance is also mentioned by Agatharchides, who states, in addition, that they live[93] on locusts,[94] and are very swift of foot. Clitarchus and Megasthenes give these people the name of Mandi, and enumerate as many as three hundred villages which belong to them. Their women are capable of bearing children in the seventh year of their age, and become old at forty.[95]

[88] Pliny, in B. xxix. c. 38, speaks of the use of vipers' flesh as an article of diet, and gives some minute directions for its preparation. It was supposed to be peculiarly nutritive and restorative, and it has been prescribed for the same purpose by modern physicians. There is a medal in existence, probably struck by the Emperor Commodus, in order to commemorate the benefit which he was supposed to have derived from the use of the flesh of vipers.—B.

[89] See B. ii. c. 75.

[90] The cubitus and the palmus of the Romans, estimated, respectively, at about one foot and-a-half and three inches; this would make the height of these people eight feet.—B.

[91] From the Greek Γυμνητὴς, "one who takes much exercise of the body."

[92] There appears to be no foundation for this statement.—B.

[93] See B. vi. c. 35.

[94] In many of the warmer climates, where the locusts are of large size and in great abundance, they are occasionally used as food; but we have no reason to believe that they constitute the sole, or even the principal article of the food of any tribe or people.—B.

[95] In warm climates, the females arrive at maturity considerably earlier

Artemidorus states that in the island of Taprobane,[96] life is prolonged to an extreme length, while, at the same time, the body is exempt from weakness. According to Durisis, some of the Indians have connection with beasts, and from this union a mixture of half man, half beast, is produced.[97] Among the Calingæ, a nation also of India, the women conceive at five years of age, and do not live beyond their eighth year.[98] In other places again, there are men born with long hairy tails,[99] and of remarkable swiftness of foot; while there are others that have ears so large as to cover the whole body.[1]

The Oritæ are divided from the Indians by the river Arabis;[2] they are acquainted with no food whatever except fish, which they are in the habit of tearing to pieces with their nails, and drying in the sun.[3] Crates of Pergamus states, that the Troglodytæ, who dwell beyond Æthiopia, are able to outrun the horse; and that a tribe of the Æthiopians, who are known as the Syrbotæ, exceed eight cubits in height.

There is a tribe of Æthiopian Nomades dwelling on the banks of the river Astragus, towards the north, and about

than in the more temperate regions, but the age here mentioned is an exaggeration. The female also, in such climates, ceases to bear at an earlier age, probably before the fortieth year.—B.

[96] This is the Island of Ceylon, of which Pliny has given an account in the last Book, c. 24.

[97] Such unnatural unions may have taken place occasionally, but nothing has ever been produced from them.—B.

[98] This is a still greater exaggeration than that mentioned above, in Note 95.—B.

[99] Cuvier remarks that this story must have been originally told with reference to the race of large apes. He says, however, that some men have the "os coccygis" greatly prolonged, and mentions a painter of celebrity in Paris who had this malformation. "But from this to an actual tail," says he, "the distance is very great." In these times we have the (perhaps doubtful) account by M. de Couret, of the Niam Niams, a race in Abyssinia or Nubia, with tails at least two inches in length. Few will fail to recollect Lord Monboddo's theory, that mankind originally had tails, but wore them off in lapse of time by climbing up the trees.

[1] As far as there is any truth in this account, it must refer to certain kinds of apes: but with respect to the size of the ears, it is, of course, greatly exaggerated.—B.

[2] Or Cophes, see B. vi. c. 25.

[3] There are many tribes who live on the sea-coast, and who inhabit a barren country, with a bad climate, whose diet is almost confined to fish, and who feed their cattle on it. This is the case in some parts of Iceland, and even, to a certain extent, among the people of the Hebrides.—B.

twenty days' journey from the ocean. These people are called Menismini; they live on the milk of the animal which we call cynocephalus,[4] and rear large flocks of these creatures, taking care to kill the males, except such as they may preserve for the purpose of breeding. In the deserts of Africa, men are frequently seen to all appearance, and then vanish in an instant.[5]

Nature, in her ingenuity, has created all these marvels in the human race, with others of a similar nature, as so many amusements to herself, though they appear miraculous to us. But who is there that can enumerate all the things that she brings to pass each day, I may almost say each hour? As a striking evidence of her power, let it be sufficient for me to have cited whole nations in the list of her prodigies.

Let us now proceed to mention some other particulars connected with Man, the truth of which is universally admitted.

CHAP. 3.—MARVELLOUS BIRTHS.

(3.) That three children are sometimes produced at one birth, is a well-known fact; the case, for instance, of the Horatii and the Curiatii. Where a greater number of children than this is produced at one birth, it is looked upon as portentous, except, indeed, in Egypt, where the water of the river Nile, which is used for drink, is a promoter of fecundity.[6] Very recently, towards the close of the reign of the Emperor Augustus, now deified, a certain woman of the lower orders, at Ostia, whose name was Fausta, brought into the world, at one birth, two male children and two females, a presage, no doubt, of the famine which shortly after took place. We find it stated, also, that in Peloponnesus, a woman was delivered of five[7] children at a birth four successive times, and that the greater part of all these children survived. Trogus informs us, that in

[4] Or dog's-headed ape, the baboon: see B. vi. c. 35, and Note 70, p. 130.

[5] Perhaps these appearances may be referred to effects of what is termed "mirage," a phenomenon which is described by travellers in different parts of the torrid zone.—B. And in the temperate regions as well; Switzerland and the Hartz mountains, for instance.

[6] Columella, B. viii. c. 8, speaks of the fecundity of the Egyptians, but without ascribing any particular cause for it.—B.

[7] "Quinos." The old reading was "binos," "two" children only; but Aristotle, in reference, no doubt, to the same circumstance, says, Hist.

Egypt,[8] as many as seven children are occasionally produced at one birth.[9]

Individuals are occasionally born, who belong to both sexes; such persons we call by the name of hermaphrodites;[10] they were formerly called Androgyni, and were looked upon as monsters,[11] but at the present day they are employed for sensual purposes.[12]

Pompeius Magnus, among the decorations of his theatre,[13] erected certain statues of remarkable persons, which had been executed with the greatest care by artists of the very highest

Anim. B. vii., "One woman, at four births, gave birth to twenty children. For she brought forth five at a time, and the greater part of them were reared."

[8] It was a very general opinion, that the waters of the Nile possess the property of promoting fecundity. Seneca mentions it as an acknowledged fact, Nat. Quæst. B. iii. c. 25.—B.

[9] There are well-authenticated accounts of four children having been produced at one birth; but, beyond this, we have no statements in which we can place much confidence. In a note by Dalechamps, we have an example of the credulity of the authors who have treated on this topic, as well modern as ancient.—B. In the recent volumes, however, of "Notes and Queries," we find some apparently well-authenticated cases of women being delivered of five children at a birth. Nathaniel Wanley, in his "Wonders of the Little World," also gives some apparently authentic instances of as many as five children being born at a birth: but we must be excused giving credit to the story, quoted by him, of Matilda or Margaret, Countess of Henneberg, who was said to have been delivered, on the Friday before Palm-Sunday, in 1276, "of 365 children, half sons and half daughters, with the exception of one, which was an hermaphrodite, all complete and well-fashioned, of the bigness of chickens new hatched, saith Camerarius."

[10] From Hermaphroditus, the son of Hermes or Mercury, and Aphrodite or Venus. According to the poetic story as told by Ovid, Met. B. iv., he was united in one body, which bore the characteristics of both sexes, with the nymph Salmacis.

[11] Two cases of this description are mentioned by Livy, B. xxvii. c. 37, and B. xxxi. c. 12. In this latter passage, Livy enumerates the following prodigious births; among the Sabines, two children of doubtful sex; at Frusino, a lamb with a sow's head; at Sinuessa, a pig with a human head; and among the Lucani, a foal with five feet. He informs us that the hermaphrodites were thrown into the sea.—B.

[12] Cuvier says, "From time to time we do see persons of this nature; and it is not long ago that such a being was exhibited in Paris, though certainly not of a nature to have been 'in deliciis,' at the present day."

[13] Pliny gives further particulars of this theatre in B. xxxvi. c. 24. It was the first stone theatre erected at Rome, and was built B.C. 55, and contained 40,000 spectators.

reputation. Among others, we here read an inscription to the following effect: "Eutychis,[14] of Tralles,[15] was borne to the funeral pile by twenty of her children, having had thirty in all."[16] Also, Alcippe[17] was delivered of an elephant[18]—but then that must be looked upon as a prodigy; as in the case, too, where, at the commencement of the Marsian war,[19] a female slave was delivered of a serpent.[20] Among these monstrous births, also, there are beings produced which unite in one body the forms of several creatures. For instance, Claudius Cæsar informs us, in his writings, that a Hippocentaur was born in Thessaly, but died on the same day: and indeed I have seen one myself, which in the reign of that emperor was brought to him from Egypt, preserved in honey.[21] We have a case,

[14] Solinus, the ape of Pliny, absolutely takes the meaning of this passage to be, that Eutychis herself was exhibited on the stage by the orders of Pompey.

[15] For Tralles, in Asia Minor, see B. v. c. 29.

[16] Cuvier speaks of the wife of a porter at the Jardin du Roi, at Paris, who, to his knowledge, had been the mother of thirty children.

[17] It seems doubtful whether Pliny means that the statue of Alcippe was also to be seen in the Theatre of Pompey. Tatianus tells the same story of one Glaucippe, and it is not improbable that under that name he refers to the same person. He says that a bronze statue of her was made by Niceretus, the Athenian. Hardouin suggests that this is the story alluded to by Livy, B. xxvii., and by Valerius Maximus, B. i. c. 6, in their statement that, among other portents, a boy was born with the head of an elephant.

[18] Cuvier remarks, that it is not an uncommon circumstance, both in man and in other animals, for an atrophy of the maxillary bones to cause the nose to sink down, and produce some resemblance to the trunk of an elephant. To this circumstance, he refers the tales met with, of women, sows, and dogs having produced elephants; see also Val. Maximus, B. vi. c. 5.—B.

[19] As to this war, see B. ii. c. 85. The portents observed on this occasion were collected by the historian Sisenna, as we learn from Cicero, De Divin. B. ii.

[20] We find that this incredible tale is not only told by Julius Obsequens, but, according to Dalechamps, by Cornelius Gemma, a comparatively modern writer.—B.

[21] Cuvier remarks, that, in certain quadrupeds, individuals are occasionally born with the upper jaw preternaturally small, so much so, that the lower jaw, by its projection, bears some resemblance to a human chin. He had seen a case of this description at Geneva, in a calf, supposed, even by persons of information, to be the produce of an unnatural connection of a cow with a Savoyard shepherd. This subject is treated very philosophically by Lucretius, B. v. c. 876, *et seq.* With respect to the supposed Hippocentaur of Thessaly, Cuvier remarks upon the successive

also, of a child at Saguntum, which returned immediately into its mother's womb, the same year in which that place was destroyed by Hannibal.

(4.) The change of females into males is undoubtedly no fable. We find it stated in the Annals, that, in the consulship of P. Licinius Crassus and C. Cassius Longinus,[22] a girl, who was living at Casinum[23] with her parents, was changed into a boy; and that, by the command of the Aruspices, he was conveyed away to a desert island. Licinius Mucianus informs us, that he once saw at Argos a person whose name was then Arescon, though he had been formerly called Arescusa: that this person had been married to a man, but that, shortly after, a beard and marks of virility made their appearance, upon which he took to himself a wife. He had also seen a boy at Smyrna,[24] to whom the very same thing had happened. I myself saw in Africa one L. Cossicius, a citizen of Thysdris,[25] who had been changed into a man the very day on which he was married to a husband.[26] When women are delivered of twins, it rarely

additions which the story had gained, in the writings of various authors. Cicero, in various parts of his writings, refers to the account of the Hippocentaur as a fabulous tale; Tusc. Quæst. B. i. c. 27; de Nat. Deor. B. i. c. 38, and B. ii. c. 2; De Divin. B. ii. c. 21.—B.

[22] Consuls A.U.C. 581.

[23] See B. iii. c. 9. Hardouin remarks that Aulus Gellius, in copying from this passage, seems to have read the word "Casini," as though it were C. Asinii, meaning that the boy belonged to one C. Asinius. However, it is pretty clear that the reading adopted is the right one, Pliny having been careful to give the various localities at which these wonderful facts occurred.

[24] Phlegon tells us that this happened in the first year of Nero, and that the name of the youth, while supposed to be a girl, was Philotis.

[25] See B. v. c. 4, 5.

[26] A case of this description is mentioned by Ambrose Paré. The individual was brought up as a girl, but, in consequence of a sudden muscular exertion, the organs of the male were developed, which had previously been concealed internally. It may be remarked, that a great proportion of the well-authenticated cases of a supposed change of sex have been from the female to the male, evidently of the kind mentioned by Paré, where the male organs have been concealed in childhood, and become subsequently developed. Cases, however, have occasionally occurred of the contrary kind, arising probably from the unusual size of the clitoris; there are also certain cases, where, from the malformation of the parts, the sex is actually doubtful, or where even a certain degree of the two may exist, as has been stated above, in Note 51 to Chapter 2. This paragraph of Pliny is quoted by Aulus Gellius, B. ix. c. 4.—B.

happens but that either the mother herself, or one, at least, of the twins perishes.[27] If, however, the twins should happen to be of different sexes, it is less probable that both of them will survive. Female children are matured more quickly than males,[28] and become old sooner. Of the two, male children most frequently are known to move in the womb;[29] they mostly lie on the right side of the body, females on the left.[30]

CHAP. 4. (5.)—THE GENERATION OF MAN; UNUSUAL DURATION OF PREGNANCY; INSTANCES OF IT FROM SEVEN TO TWELVE MONTHS.

In other animals the period of gestation and of birth is fixed and definite, while man, on the other hand, is born at all seasons of the year,[31] and without any certain period of gestation;[32] for one child is born at the seventh month, another at the eighth, and so on, even to the beginning of the tenth and eleventh. Those children which are born before the seventh month are never known to survive;[33] unless, indeed, they hap-

[27] This does not correspond with the fact, as it exists in our time; a circumstance which may probably depend upon our improvement in the obstetrical art. Nor is the opinion, that both twins are less likely to live, if of different sexes, sanctioned by modern experience.—B.

[28] "Feminas gigni celerius quam mares;" there has been much discussion among the commentators, both with respect to the meaning of these words, and the fact to which they are supposed to refer. Hardouin interprets the phrase, "crescere, perfici, vigere, adolescere;" Cuvier translates it, "les filles sont portées moins long-temps par leur mere." There is, however, no foundation for this opinion as to a difference in the period of the gestation.—B.

[29] There may be some ground for this opinion; it is maintained by Aristotle in his Hist. Anim.—B. As also by Galen.

[30] This statement is made upon the authority of Hippocrates, Aphor. B. v. c. 48, and Aristotle, Hist. Anim.; but is probably without foundation.—B.

[31] Animals have a certain period for generation, because they are more immediately affected by the seasons, whereas, in the human race, the arts of life render these fixed terms unnecessary.—B.

[32] Notwithstanding all the observations of the moderns, the question is scarcely decided respecting the length of time to which pregnancy may be prolonged. Cuvier says, that the experiments of Tessier have shewn, that there is a greater latitude in animals than had previously been supposed; he also remarks, that the same animals when domesticated, become less regular in this respect than in the wild state.—B.

[33] Dalechamps has collected authorities to prove, that a child may

pen to have been conceived the day before or the day after the full moon, or at the change of the moon. In Egypt it is not an uncommon thing for children to be born at the eighth month; and in Italy, too, children that are born at this period live just as long as others, notwithstanding the opinions of the ancients to the contrary. There are great variations in this respect, which occur in numerous ways. Vestilia, for instance, who was the wife of C. Herdicius, and was afterwards married, first, to Pomponius,[34] and then to Orfitus, very eminent citizens, after having brought forth four children, always at the seventh month, had Suillius Rufus at the eleventh month, and then Corbulo at the seventh, both of whom became consuls; after which, at the eighth month, she had Cæsonia, who became the wife of the Emperor Caius.[35] As for children who are born at the eighth month, the greatest difficulty with them is to get them over the first forty days.[36] Pregnant women, on the other hand, are in the greatest danger during the fourth and the eighth month, and abortions during these periods are fatal. Masurius informs us, that L. Papirius, the prætor, on one occasion, when the next but one in succession was urging his suit at law, decided against him, in favour of the heir,[37] although his mother declared that her period of gestation had lasted thirteen months—upon the ground that it did not appear that there was any fixed and definite period of gestation.[38]

survive, when born even at an earlier period; but this, although not absolutely impossible, is improbable in the highest degree.—B.

[34] Ajasson expresses himself at a loss to identify this Pomponius; but thinks that it may have been either Julius Pomponius Græcinus, consul A.U.C. 759, or L. Pomponius, consul A.U.C. 794, A.D. 41.

[35] Caius Caligula. The name of this woman, who was first his mistress and then his wife, was Milonia Cæsonia. She was neither handsome nor young when Caligula first admired her: but was noted for her extreme licentiousness, and at the time when she first became intimate with Caligula, had already had three children. She and her daughter, by him, were put to death on the day on which he was murdered. Corbulo has been mentioned in B. vi. c. 8.

[36] Celsus, B. ii. c. 1, speaks of the fortieth day, as one of the critical periods of childhood; the others are the seventh month, the seventh year, and the period of puberty.—B.

[37] Who appears to have urged the great lapse of time that had intervened between the death of the alleged father and the birth of his opponent.

[38] Questions of this nature, of great importance, involving property and title, have been the subject of judicial consideration in our times; the

CHAP. 5. (6.)—INDICATIONS OF THE SEX OF THE CHILD DURING THE PREGNANCY OF THE MOTHER.[39]

On the tenth day after conception, pains are felt in the head, vertigo, and dimness of the sight; these signs, together with loathing of food and rising of the stomach, indicate the formation of the future human being. If it is a male that is conceived, the colour of the pregnant woman is more healthy,[40] and the birth less painful: the child moves in the womb upon the fortieth day. In the conception of a child of the other sex, all the symptoms are totally different: the mother experiences an almost insupportable weight, there is a slight swelling of the legs and the groin, and the first movement of the child is not felt until the ninetieth day. But, whatever the sex of the child, the mother is sensible of the greatest languor at the time when the hair of the fœtus first begins to grow, and at the full moon; at which latter time it is that children newly born are exposed to the greatest danger. In addition to this, the mode of walking, and indeed everything that can be mentioned, is of consequence in the case of a woman who is pregnant. Thus, for instance, women who have used too much salted meat will bring forth children without nails: parturition, too, is more difficult, if they do not hold their breath. It is fatal, too, to yawn during labour;[41] and abortion ensues, if the female should happen to sneeze just after the sexual congress.

(7.) It is a subject for pity, and even for a feeling of shame, when one reflects that the origin of the most vain of all animated beings is thus frail: so much so, indeed, that very often the smell even of a lamp just extinguished is a cause of abortion.[42] From such beginnings as these springs the tyrant,

longest period to which pregnancy may be protracted seems still not to be determined, but the general result has been to shorten it. Aulus Gellius, B. iii. c. 16, has collected the opinions of many of the ancients on this subject.—B.

[39] Most of the statements made in this Chapter appear to be taken from Aristotle's History of Animals; they are, however, either without foundation or much exaggerated, and very incorrect.—B.

[40] This opinion, although without foundation, is supported by the authority of Hippocrates, Aphor. B. v. c. 42.—B.

[41] This singular opinion is referred to by Aulus Gellius, B. iii. c. 16.—B.

[42] Ælian, Hist. Anim. B. ix. c. 54, mentions the smell of an extinguished lamp, as producing abortion in a mare.—B.

from such the murderous dispositions of men. Thou man, who placest thy confidence in the strength of thy body, thou, who dost embrace the gifts of Fortune, and look upon thyself, not only as her fosterling, but even as her own born child, thou, whose mind is ever thirsting for blood,[43] thou who, puffed up with some success or other, dost think thyself a god—by how trifling a thing might thy life have been cut short! Even this very day, something still less even may have the same effect, the puncture, for instance, of the tiny sting of the serpent; or even, as befell the poet Anacreon,[44] the swallowing of the stone of a raisin, or of a single hair in a draught of milk, by which the prætor and senator, Fabius, was choked, and so met his death. He only, in fact, will be able to form a just estimate of the value of life, who will always bear in mind the extreme frailty of its tenure.

CHAP. 6. (8.)—MONSTROUS BIRTHS.

It is contrary to nature for children to come into the world with the feet first, for which reason such children are called Agrippæ, meaning that they are born with difficulty.[45] In this manner, M. Agrippa[46] is said to have been born; the

[43] "Tinctoria mens;" there has been much discussion, whether the text does not require correction here; and various conjectural emendations have been proposed, but not with much success. If the word "tinctoria" was employed by Pliny, it may be regarded as one of those bold, and somewhat metaphorical expressions, which are not unfrequently found in his writings.—B.

[44] Valerius Maximus makes the same statement as to the death of Anacreon, and says that "having lived to an extreme old age, he was supporting his decayed strength by chewing raisins, when one grain, more obstinate than the rest, stuck in his parched throat, and so ended his life." This story has been looked upon by some of the modern scholars as a fiction of the poets.

[45] This explanation of the name is given by Aulus Gellius, B. xvi. c. 6. —B. It is very doubtful what are the roots from which it is formed; though Pliny evidently thinks that the word is only a corruption of the Latin "ægre partus," "born with difficulty;" a notion savouring of absurdity.

[46] M. Vipsanius Agrippa, the son-in-law of Augustus, having married his dissolute daughter, Julia. He was the son of Lucius Agrippa, and was descended from a very obscure family. He divorced his wife Marcella, to marry Julia, the widow of Marcellus, and the daughter of Augustus, by his third wife, Scribonia.

only instance, almost, of good fortune, out of the number of all those who have come into the world under these circumstances. And yet, even he may be considered to have paid the penalty of the unfavourable omen produced by the unnatural mode of his birth, in the unfortunate weakness of his legs, the misfortunes of his youth, a life spent in the very midst of arms and slaughter, and ever exposed to the approaches of death; in his children, too, who have all proved a very curse to the earth, and more especially, the two Agrippinas, who were the mothers respectively of Caius and of *Domitius* Nero,[47] so many firebrands hurled among the human race. In addition to all this, we may add the shortness of his life, he being cut off in his fifty-first year, the distress which he experienced from the adulteries of his wife,[48] and the grievous tyranny to which he was subjected by his father-in-law. Agrippina, too, the mother of Nero, who was lately Emperor, and who proved himself, throughout the whole of his reign, the enemy of the human race, has left it recorded in writing, that he was born with his feet first. It is in the due order of nature that man should enter the world with the head first, and be carried to the tomb in a contrary fashion.

CHAP. 7. (9.)—OF THOSE WHO HAVE BEEN CUT OUT OF THE WOMB.

Those children, whose birth has cost the mother her life, are evidently born under more favourable auspices; for such was the case with the first Scipio Africanus; the first, too, of the Cæsars was so named, from his having been removed by an incision in his mother's womb. For a similar reason, too, the Cæsones were called by that name.[49] Manilius, also, who entered Carthage with his army, was born in a similar manner.

[47] Agrippina, the daughter of Agrippa and Julia, was the mother of the Emperor Caligula; and of a second Agrippina, who became the mother of Nero, by whose order she was put to death.—B.

[48] Julia, the daughter of Augustus, so notorious for her depravity, who, as already stated, was the wife of Agrippa.—B. See c. 46 of the present Book.

[49] From cædo, "to cut," apparently. The Cæsones were a branch of the Fabian family. There has been considerable difference of opinion among the commentators respecting the individuals referred to in this Chapter. The subject is discussed at length in the Notes of Hardouin, Lemaire, vol. iii. p. 62.—B. So in Macbeth, act v. sc. 7, Macduff says to Macbeth—

CHAP. 8. (10.)—WHO WERE CALLED VOPISCI.

A child used to be called Vopiscus,[50] who, when twins had been conceived, had been retained in the womb and born alive, the other having perished by abortion. There are, too, some very remarkable instances of this kind, although they are singularly rare and uncommon.

CHAP. 9. (11.)—THE CONCEPTION AND GENERATION OF MAN.

Few animals, except the female of the human species, receive the male when pregnant. In only one or two species, and no more, does superfœtation ever take place.[51] Cases are to be found stated in the journals of physicians, and of others who have paid particular attention to the subject, in which twelve embryos[52] have been removed at a single abortion. When, however, but a very short time has intervened between two conceptions, the embryos both of them proceed to maturity; as was seen to be the case with Hercules and his brother Iphicles.[53] This was the case also with the woman who brought forth two children at a birth, one of whom bore a resemblance to her husband, and the other to her paramour. So too, with a female slave in Proconnesus,[54] who was delivered of two children at one birth, one of whom bore a strong resemblance to her master, and the other to her master's steward, with both of whom she had had connection on the same day; with another woman who was delivered of two children at a birth, the one after the usual period of gestation, the other an em-

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"And let the angel whom thou still hast serv'd,
Tell thee, Macduff was from his mother's womb
Untimely ripp'd."

[50] The commentators are not agreed respecting the origin of this name; Dalechamps suggests, that it was originally Opiscus, from ὀπίσθιον, "because one follows close upon another."—B.

[51] Hardouin says, that this is the case with the hare and the dasypus, which is a species of hare; but there is probably no foundation for the statement. Pliny repeats it in a subsequent passage, B. viii. c. 81.—B.

[52] Pliny evidently considers this a case of superfœtation, and looks upon it as not uncommon in the human species: whereas it is now considered impossible.

[53] This refers to the mythological tale of Jupiter and Amphitryon.—B.

[54] See B. v. c. 44.

bryo only five months old: and again, with another female, who, having been delivered of one child at the end of seven months, in due course, two months afterwards, brought forth twins.[55]

CHAP. 10.—STRIKING INSTANCES OF RESEMBLANCE.

It is universally known that well-formed parents often produce defective children; and on the other hand, defective parents children who are well formed, or else imperfect in the same part of the body as the parents. It is a well-known fact also, that marks, moles, and even scars, are reproduced in members of the same family in successive generations. The mark which the Daci make on their arms for the purpose of denoting their origin, is known to last even to the fourth generation.[56]

(12.) We have heard it stated that three members of the family of the Lepidi have been born, though not in an uninterrupted succession, with one of the eyes covered with a membrane.[57] We observe, too, that some children strongly resemble their grandfather, and that of twins one child is like the father, while the other resembles the mother; and have known cases where a child that was born a year after another, resembled him as exactly as though they had been twins. Some women have children like themselves, some like their husband, while others again bear children who resemble neither the one nor the other. In some cases the female children resemble the father, and the males the mother. The case of Nicæus, the celebrated wrestler of Byzantium, is a well-known and un-

[55] Most of these statements appear to be taken from Aristotle, Hist. Anim.—B.

[56] There has been much discussion respecting the meaning of this passage and the fact to which it refers. Aristotle, Hist. Anim., says, that marks made on the arm are transmitted for three generations; and Pliny, in B. xxii. c. 2, informs us, that the Daci and the Sarmatæ "make written marks upon their bodies." The same custom prevails among the lower orders, sailors especially, in our own times. We may also remark the analogy which it bears to the practice of tattooing, so general among the Polynesian and other barbarous nations.—B.

[57] The reader may be amused by a perusal of the collection of wonderful cases of this kind, which has been made by Dalechamps; see Lemaire, vol. iii. p. 65, note 4.—B.

doubted instance. His mother was the produce of an act of adultery, committed with a male of Æthiopia; and although she herself differed in no way from the ordinary complexion of other females, he was born with all the swarthy complexion of his Æthiopian grandfather.[58]

These strong features of resemblance proceed, no doubt, from the imagination of the parents, over which we may reasonably believe that many casual circumstances have a very powerful influence; such, for instance, as the action of the eyes, the ears, or the memory, or impressions received at the moment of conception. A thought[59] even, momentarily passing through the mind of either of the parents, may be supposed to produce a resemblance to one of them separately, or else to the two combined. Hence it is that the varieties are much more numerous in the appearance of man than in that of other animals; seeing that, in the former, the rapidity of the ideas, the quickness of the perception, and the varied powers of the intellect, tend to impress upon the features peculiar and diversified marks; while in the case of the other animals, the mind is immovable, and just the same in each and all individuals of the same species.[60] A man named Artemon, one of the common people,[61] bore so strong a resemblance to Antiochus, the king of Syria, that his queen Laodice, after her husband Antiochus was slain, acted the farce of getting this man[62] to recommend

[58] Aristotle, in his History of Animals, relates a similar, but not the same, story; he says that it occurred in Sicily, though he afterwards speaks of it as having happened in Elis. It is conjectured by Ajasson, that the individual might have been born in Sicily, and have exhibited himself in Elis, as a wrestler. If we are really to believe that his complexion was that of an Æthiopian, it is much more probable that his mother may have had connection with a negro.—B.

[59] Few readers will fail here to recall to mind the story about the clock, in the opening chapter of "Tristram Shandy."

[60] Dalechamps refers us to a remark of the same kind in Cicero, Tusc. Quæst. B. i. c. 80; but Ajasson remarks, that the resemblance mentioned by Cicero refers to the mind and manners, not to the body; Lemaire, vol. iii. p. 67.—B.

[61] Aulus Gellius says, that he was one of the royal family.

[62] This man resembled Antiochus III., surnamed the Great, to such a degree, that when that monarch had been slain in a tumult by his people, his wife, Laodice, daughter of Mithridates V., King of Pontus, put Artemon into a bed, pretending that he was the king, but dangerously ill. Many persons were admitted to see him; and all believed that they were listening to the words of their king, when he recommended to them Laodice and her children.

her as the successor to the crown. Vibius, a member of the plebeian order,[63] and Publicius as well, a freedman who had formerly been a slave, so strongly resembled Pompeius Magnus in appearance as to be scarcely distinguishable from him; they both had that ingenuous countenance[64] of his, and that fine forehead,[65] which so strongly bespoke his noble descent. It was a similar degree of resemblance to this, that caused the surname of his cook, Menogenes, to be given to the father of Pompeius Magnus, he having already obtained that of Strabo, on account of the cast in his eye,[66] a defect which he had contracted through imitating a similar one in his slave. Scipio, too, had the name of Serapion given him, after the vile slave of a pig-jobber: and after him, another Scipio of the same family was surnamed Salvitto, after a mime[67] of that name. In the same way, too, Spinther and Pamphilus, who were respectively actors of only second and third rate parts, gave their names to Lentulus and Metellus, who were at that time colleagues in the consulship; so that, by a very curious but disagreeable coincidence, the likenesses of the two consuls were to be seen at the same moment on the stage.

On the other hand again, L. Plancus, the orator, bestowed his surname on the actor Rubrius: the player, Burbuleius, again, gave his name to the elder Curio, and the player, Menogenes, to Messala, the censor.[68] There was a certain fisherman, too, a native of Sicily, who bore a strong resemblance to the proconsul, Sura, not only in his features, but in the mode even

[63] This circumstance is related by Valerius Maximus, but he speaks of Vibius as being "ingenuæ stirpis," "of good family."—B.

[64] Hardouin expands the words "os probum," into "liberale, venustum, gratum, venerandum, probandum," B. xxxvii. c. 6.—B.

[65] See B. xxxvii. c. 6.

[66] The Latin word "strabo," means "squinting," or "having a cast" or "defect in the eye."

[67] The word "mimus" was applied by the Romans to a species of dramatic performance, as well as to the persons who acted in them. The Roman mimes were imitations of trivial and sometimes indecent occurrences in life, and scarcely differed from comedy, except in consisting more of gestures and mimicry than of spoken dialogue. Sylla was very fond of these performances, and they had more charms for the Roman populace than the regular drama. As to the mime Salvitto, here mentioned, see B. xxxv. c. 2.

[68] This anecdote, and the one respecting Spinther and Pamphilus, are mentioned also by Val. Maximus, B. ix. c. 24.—B.

of opening his mouth, and the spasmodic contraction of his tongue, and his hurried and indistinct utterance when speaking. Cassius Severus,[70] the celebrated orator, had it thrown in his teeth how strongly he resembled Armentarius, the gladiator.[71] Toranius, a slave-dealer, sold to Antony, while he was one of the Triumvirs, two boys of remarkable beauty, as being twins, so strong was their resemblance; whereas, in reality, one of them was born in Asia, and the other beyond the Alps. The fraud, however, having been soon afterwards discovered through the difference in the language of the youths, Antony, who was greatly exasperated, violently upbraided the dealer, and, among other things, complained that he had fixed the price at so high a sum as two hundred thousand sesterces.[72] The crafty slave-merchant, however, made answer that that was the very reason for his having set so high a price upon them; for, as he said, there would have been nothing particularly striking in the resemblance of the boys, if they had been born of the same mother, whereas, children found to be so exactly like each other, though natives of different countries, ought to be deemed above all price; an answer which produced such a reasonable feeling of surprise and admiration in the mind of the proscriber,[73] that he who was but just before frantic under the injury he had received, was led to set a higher value on no part whatever of all the property in his possession.

CHAP. 11. (13.)—WHAT MEN ARE SUITED FOR GENERATION. INSTANCES OF VERY NUMEROUS OFFSPRING.

There exists a kind of peculiar antipathy between the bodies

[70] A celebrated orator and satirical writer of the time of Augustus and Tiberius. He is mentioned in the Index of authors at the end of B. xxxvi., where he is called Longulanus, as being a native of Longula, a town of Latium. It was even thrown in his teeth, that he was the offspring of adultery, and that this low-born person was his father.

[71] "Mirmillonis." Many of the editions make this word to be a proper name, and "Armentarius" to signify the calling of the person described, as being a herdsman. The "Mirmillones" were a peculiar class of gladiators, said to have been so called from their having the image of a fish, called "mormyr," on their helmets.

[72] We assume the sestertium to be equivalent to somewhat more than eight pounds sterling; this sum will be about £1600.—B.

[73] "Proscripter animus." According to Hardouin, this means "delighting in proscription," alluding to the well-known proscriptions of the triumvirate, in which Antony acted so conspicuous a part.—B.

of certain persons, which, though barren with respect to each other, are not so when united to others;[74] such, for instance, was the case with Augustus and Livia.[75] Certain individuals, again, both men and women, produce only females, others males; and, still more frequently, children of the two sexes alternately; the mother of the Gracchi, for instance, who had twelve children, and Agrippina, the mother of Germanicus, who had nine. Some women, again, are barren in their youth, while to others it is given to bring forth once only during their lives. Some women never go to their full time, or if, by dint of great care and the aid of medicine, they do give birth to a living child, it is mostly a girl. Among other instances of rare occurrence, is the case of Augustus, now deified, who, in the year in which he departed this life, witnessed the birth of M. Silanus,[76] the grandson of his granddaughter: having obtained the government of Asia, after his consulship, he was poisoned by Nero, on his accession to the throne.

Q. Metellus Macedonicus,[77] leaving six children, left eleven grandsons also, with daughters-in-law and sons-in-law,[78] twenty-seven individuals in all, who addressed him by the name and title of father. In the records of the times of the Emperor Augustus, now deified, we find it stated that, in his twelfth consulship, Lucius Sylla being his colleague, on the

[74] This opinion is maintained by Hippocrates, and by Aristotle, Hist. Anim. B. vii. c. 8, and is referred to by Lucretius, B. iv. c. 1242, *et seq.*—B.

[75] The case of Livia and that of Agrippina, referred to by Pliny, are mentioned by Suetonius, in the Life of Augustus, c. 63; and that of Caligula, c. 7.—B.

[76] M. Junius Silanus, consul under Claudius, A.D. 46, with Valerius Asiaticus. He was poisoned by order of the younger Agrippina, that he might not stand in the way of Nero.

[77] He is first mentioned in B.C. 168, when he was serving in the army of Æmilius Paulus, in Macedonia, and was sent to Rome with two other envoys to announce the defeat of Perseus. He united with the aristocracy in opposing the measures of the Gracchi; and the speech which he delivered against Tiberius Gracchus, is spoken of by Cicero in high terms, as replete with true eloquence.

[78] He left four sons and two daughters; some writers say three. The ten individuals, over and above his children and grandchildren, may have consisted of the wives and husbands of his sons and daughters *then* living, as also of others who had died in his lifetime.

third day before the ides of April,[79] C. Crispinus Hilarus, a man of a respectable family of the plebeian order, living at Fæsulæ,[80] came to the Capitol, to offer sacrifice, attended by eight children (of whom two were daughters), twenty-eight grandsons, nineteen great-grandsons, and eight granddaughters, who all followed him in a lengthened train.

CHAP. 12. (14.)—AT WHAT AGE GENERATION CEASES.

Women cease to bear children at their fiftieth year, and, with the greater part of them, the monthly discharge ceases at the age of forty. But with respect to the male sex, it is a well-known fact, that King Masinissa, when he was past his eighty-sixth year, had a son born to him, whom he named Metimanus,[81] and that Cato the Censor, after he had completed his eightieth year, had a son by the daughter of his client, Salonius: a circumstance from which, while the descendants of his other sons were surnamed Liciniani, those of this son were called Saloniani, of whom Cato of Utica was one.[82] It is equally well known, too, that L. Volusius Saturninus,[83] who lately died while prefect of the city, had a son when he was past his seventy-second year,[84] by Cornelia, a member of the family of the Scipios, Volusius Saturninus, who was afterwards consul. Among the lower classes of the people, we not uncommonly meet with men who become the fathers of children after the age of seventy-five.

CHAP. 13. (15.)—REMARKABLE CIRCUMSTANCES CONNECTED WITH THE MENSTRUAL DISCHARGE.

Among the whole range of animated beings, the human fe-

[79] 11th of April.

[80] See B. iii. c. 8.

[81] This fact is mentioned by Valerius Maximus, B. viii. c. 13. There is some variation in the spelling of the name of the son of Masinissa; Solinus calls him Mathumannus.—B.

[82] Hardouin gives a detailed account of the children of Cato, by which it appears that the Licinian branch descended from the issue by his wife Licinia, and the Saloniani, of whom Cato of Utica was one, from his son Salonianus, by his second wife, Salonia.—B

[83] Volusius Saturninus is again mentioned in the 49th Chapter, as a remarkable instance of longevity; also by Tacitus, B. xiii. c. 30.—B

[84] This reading seems preferable to sixty-second, adopted by Sillig; as there would be nothing very remarkable in a man becoming a father when sixty-two years of age.

male is the only one that has the monthly discharge,[85] and in whose womb are found what we term "moles." These moles consist of a shapeless mass of flesh, devoid of all life, and capable of resisting either the edge or the point of the knife; they are movable in the body, and obstruct the menstrual discharge; sometimes, too, they are productive of fatal consequences to the woman, in the same manner as a real fœtus; while, at other times, they remain in the body until old age; in some cases, again, they are discharged, in consequence of an increased action of the bowels.[86] Something of a very similar nature is produced in the body of the male, which is called a "schirrus;"[87] this was the case with Oppius Capito, a man of prætorian rank.

It would indeed be a difficult matter to find anything which is productive of more marvellous effects than the menstrual discharge.[88] On the approach of a woman in this state, must will become sour, seeds which are touched by her become sterile, grafts wither away, garden plants are parched up, and the fruit will fall from the tree beneath which she sits. Her very look, even, will dim the brightness of mirrors, blunt the edge of steel, and take away the polish from ivory. A swarm of bees, if looked upon by her, will die immediately;

[85] Some of the "simiæ" are subject to a periodical discharge, analogous to that of the human female; but, according to Cuvier, it is in smaller quantity, and not at stated periods. The females of various other animals, when in a state to receive the male, have a discharge from the same parts, but totally different in its properties, and the mode in which it makes its appearance. Virgil, Geor. B. iii. l. 280, *et seq.*, refers to this subject.—B.

[86] Pliny makes some further remarks on these substances in a subsequent place, see B. x. c. 84; where he says they are produced without the intercourse of the male; this point has been much discussed, and is perhaps scarcely yet decided.—B.

[87] There is no actual resemblance between moles and schirri; they are produced by different causes, and exist in different parts of the body. Moles are always formed in the womb, and probably have some connection with the generative functions; while schirri are morbid indurations, which make their appearance in various parts of the body. Hippocrates gives some account of moles, in his work on the Diseases of Women. They are also noticed by Aristotle.—B.

[88] All the poisonous and noxious effects which were attributed by the ancients to the menstrual discharge, are without the slightest foundation. The opinions entertained on this point by the Jews, may be collected from Leviticus, c. xv. ver. 19, *et seq.* Pliny enlarges upon this subject in a subsequent place. See B. xxviii. c. 23.—B.

brass and iron will instantly become rusty, and emit an offensive odour; while dogs which may have tasted of the matter so discharged are seized with madness, and their bite is venomous and incurable.

In addition to this, the bitumen which is found at certain periods of the year, floating on the lake of Judæa, known as Asphaltites, a substance which is peculiarly tenacious, and adheres to everything that it touches, can only be divided into separate pieces by means of a thread which has been dipped in this virulent matter.[89] It is said that the ant, even an insect so extremely minute, is sensible of its presence, and rejects the grains which it has been carrying, and will not return to them again.[90]

This discharge, which is productive of such great and singular effects, occurs in women every thirty days, and in a greater degree every three months.[91] In some individuals it occurs oftener than once a month, and in others, again, it never takes place. Women of this nature, however, are not capable of bearing children, because it is of this substance that the infant is formed.[92] The seed of the male, acting as a sort of leaven, causes it to unite and assume a form, and in due time it acquires life, and assumes a bodily shape. The consequence is, that if the flow continues during pregnancy, the child will be weak, or else will not live; or if it does, it will be full of gross humours, Nigidius says.

(16.) The same author is also of opinion, that the milk of a woman who is giving suck will not become impure, if she should happen to become pregnant again by the same man.[93]

[89] Both Josephus, Bell. Jud. B. iv. c. 9, and Tacitus, Hist. B. v. c. 6, give an account of this supposed action of this fluid on the bitumen of Lake Asphaltites; the statement is no doubt entirely unfounded, but it is a curious instance of popular credulity.—B.

[90] There are still somewhat similar superstitions in existence, even in this country among others; it is not uncommonly believed that meat will not take salt from the hands of a female during the discharge of the catamenia.

[91] This statement is without foundation.—B.

[92] The fact is true, that females in whom the menstrual discharge does not take place, are seldom, if ever, capable of conception; but it does not depend on the cause here assigned. See the remarks of Cuvier, Lemaire, vol. iii. p. 82, and Ajasson, vol. vi. p. 173.—B.

[93] Pliny clearly alludes to an opinion expressed by Galen, in which he says,

CHAP. 14.—THE THEORY OF GENERATION.

Conception is generally said to take place the most readily, either at the beginning or the end of the menstrual discharge.[95] It is said, too, that it is a certain sign of fecundity in a woman, when her saliva becomes impregnated with any medicament which has been rubbed upon her eye-lids.[96]

CHAP. 15.—SOME ACCOUNT OF THE TEETH, AND SOME FACTS CONCERNING INFANTS.

It is a matter beyond doubt, that in young children the front teeth are produced at the seventh month, and, nearly always, those in the upper jaw the first. These are shed in the seventh year, and are then replaced by others.[97] Some infants are even born with teeth:[98] such was the case with Manius Curius, who, from this circumstance, received the name of Dentatus; and also with Cn. Papirius Carbo, both of them distinguished men. When this phenomenon happened in the case of a female, it was looked upon in the time of the kings as an omen of some inauspicious event. At the birth of Valeria, under such circumstances as these, it was the answer of the

"that if women while giving suck, have sexual intercourse, the milk becomes tainted." Hardouin remarks, that Pliny shows considerable caution here in bringing forward Nigidius as the propounder of these opinions, the truth of which he himself seems to have doubted.

[95] It is generally admitted, that the female is more disposed to conceive just after the cessation of each periodical discharge. We are informed by the French historians, that their king, Henry II., and his wife Catharine, having been childless eleven years, made a successful experiment of this description, by the advice of the physician Fernel; see Lemaire, vol. iii. p. 83.—B.

[96] This is one of the many idle tales referred to by Pliny, entirely without foundation.—B.

[97] This account is correct, to the extent that the first teeth that appear are the two central incisors of the upper jaw; the next are the two lower central incisors, then the upper lateral incisors, the lower lateral incisors, and the upper and lower canines. The molars follow a different order, the lower ones appearing before the upper.—B.

[98] Hardouin mentions a number of authors who relate cases of this nature. It is said to have taken place with our king Richard III. See Shakespeare, Richard III., Act i. Scene 4. An individual of very different character and fortune, Louis XIV., is said to have been born with two teeth in the upper jaw.—B.

soothsayers, that any city to which she might happen to be carried, would be destroyed; she was sent to Suessa Pometia,[1] at that time a very flourishing place, but the prediction was ultimately verified by its destruction. Some female children are born with the sexual organs closed,[2] a thing of very unfavourable omen; of which Cornelia, the mother of the Gracchi, is an instance. Some persons are born with a continuous bone in the mouth, in place of teeth; this was the case with the upper jaw of the son of Prusias, the king of Bithynia.[3]

The teeth are the only parts of the body which resist the action of fire, and are not consumed along with the rest of it.[4] Still, however, though they are able thus to resist flame, they become corroded by a morbid state of the saliva. The teeth are whitened by certain medicinal agents.[5] They are worn down by use, and fail in some persons long before any other part of the body.[6] They are necessary, not only for the mastication of the food, but for many other purposes as well. It is the office of the front teeth to regulate the voice and the speech; by a certain arrangement, they receive, as if in concert, the stroke communicated by the tongue, while by their structure in such regular order, and their size, they cut short, moderate, or soften

[1] A town of Latium: we learn from Livy, B. i. c. 53, that it was captured and plundered by Tarquinius Superbus, but he makes no mention of Valeria. See B. iii. c. 9.

[2] It is stated by Seneca, De Consol. c. 16, that Cornelia survived a large family of children, all of whom were carried off early in life; of these the two celebrated Gracchi, Tiberius and Caius, met with violent deaths. The peculiarity here referred to, probably consisted in an imperforated hymen, a mal-formation which not very unfrequently exists, and requires a surgical operation.—B.

[3] This circumstance is mentioned by Val. Maximus, B. i. c. 8.—B. We learn from Plutarch, that the same was the case also with Pyrrhus, king of Epirus: Euryphæus also, the Cyrenian, and Euryptolemus, the king of Cyprus. Herodotus, B. ix., speaks of a skull found on the plain of Platæa, with a similar conformation.

[4] Although the teeth, and especially their enamel, form the most indestructible substance which enters into the composition of the body, it is not absolutely so; a certain proportion of them consisting of animal matter, which is consumed, when exposed to a sufficient heat; the earthy part may also be dissolved by the appropriate chemical re-agents.—B.

[5] Powerful acids for instance; but they destroy the enamel. Lord Bacon recommends the ashes of tobacco as a whitener of the teeth; but that has been found to have a similar effect.

the utterance of the words. When they are lost, the articulation becomes altogether confused and indistinct.[6]

In addition to this, it is generally supposed that we may form prognostics from the teeth. The number of teeth allotted to all men, with the exception of the nation of the Turduli,[7] is thirty-two; those persons who have a greater number, are thought to be destined to be long-lived. Women have fewer teeth than men.[8] Those females who happen to have two canine teeth on the right side of the upper jaw, have promise of being the favourites of fortune, as was the case with Agrippina,[9] the mother of Domitius Nero: when they are on the left side, it is just the contrary. It is the custom of most nations not to burn the bodies of children who die before they have cut their teeth. We shall have more to say on this subject when we give an account of the different parts of the body.[10]

We find it stated that Zoroaster was the only human being who ever laughed on the same day on which he was born. We hear, too, that his brain pulsated so strongly that it repelled the hand when laid upon it, a presage of his future wisdom.

CHAP. 16.—EXAMPLES OF UNUSUAL SIZE.

It is a well-known fact, that, at the age of three years, the body of each person is half the height that it will ever attain. Taking it all in all, it is observed that in the human race, the stature is almost daily becoming less and less, and that sons are rarely taller than their parents, the fertility of the seed

[6] We find in Haller, El. Phys. B. ix. c. 2, 4, 8, and in other physiologists, a minute account of the effects produced by the teeth in the articulation of the various letters which compose the alphabet.—B.

[7] See B. iii. c. 3, and B. iv. c. 35. He does not say how many teeth the Turduli naturally had, but no doubt he is mistaken.

[8] Pliny repeats this statement in B. xi. c. 63, and extends it to the females of the sheep, goat, and hog. In the natural condition of the mouth, the number of the teeth is the same in both sexes; but, according to the observations of Cuvier, what are called the "wisdom" teeth, though occasionally deficient in both sexes, are most frequently so in the female.—B.

[9] He seems to allude to the younger Agrippina, the mother of the emperor Domitius Nero; neither her life, her character, nor her ultimate fate seem, however, to have entitled her to be called a favourite of Fortune. Her mother, the first Agrippina, grand-daughter of Augustus, appears, on the other hand, to have been a woman of virtuous character, and spotless chastity, without a vice, with the exception, perhaps, of ambition.

[10] See B. x. c. 10.

being dried up by the heat of that conflagration to which the world is fast approaching.[11] A mountain of the island of Crete having been burst asunder by the action of an earthquake, a body was found there standing upright, forty-six cubits in height;[12] by some persons it is supposed to have been that of Orion;[13] while others again are of opinion that it was that of Otus.[14] It is generally believed, from what is stated in ancient records, that the body of Orestes, which was disinterred by command of an oracle, was seven cubits in height.[15] It is now nearly one thousand years ago, that that divine poet Homer was unceasingly complaining, that men were of less stature in his day than they had formerly been.[16] Our Annals

[11] It was one of the tenets of the Stoics, that the world was to be alternately destroyed by water and by fire. The former element having laid it waste on the occasion of the flood of Deucalion, the next great catastrophe, according to them, is to be produced by fire. Pliny has previously alluded to this opinion, B. ii. c. 110.—B.

[12] Cuvier remarks, that in the alluvial tracts throughout Europe, Siberia, and America, and probably also in other parts of the world, bones have been found, which have belonged to very large animals, such as elephants, mastodons, and whales; and when discovered, the common people, and sometimes even anatomists, have mistaken them for the bones of giants. He especially mentions the case of the bones of an elephant, found near Lucerne, in the sixteenth century, and supposed by Plater to have belonged to a man seventeen feet in height. Cuvier conceives that no man in modern times has exceeded the height of seven feet, and even these cases are extremely rare; for further information he refers to his *Recherches sur les Ossemens Fossiles*. Some of the best authenticated facts of unusually tall men are in Buffon, Nat. Hist. vol. ii. p. 276, and vol. iii. p 427.—B. The skeleton of O'Brien, in the Museum of the College of Surgeons, in London, is about seven feet and a half in height.

[13] The story of the birth of Orion is beautifully told by Ovid, Fasti, B. v. l. 493. *et seq.* He was often represented by the poets as of gigantic stature, and after his death was fabled to have been placed among the stars, where he appears as a giant. It is not improbable that, like the Cyclopes, Hercules, and Atlas, he may have been one of the earliest benefactors of mankind, and an assiduous improver of their condition; whence the story of his gigantic size.

[14] A gigantic son of Poseidon or Neptune, and Iphimedeia, one of the Alöeidæ.

[15] We have an account of this supposed discovery of the body of Orestes in Herodotus, B. i. c. 68, and a reference to it, with some pertinent remarks, in Aulus Gellius, B. iii. c. 10.—B.

[16] Il. B. v. l. 303, 4, B. xii. l. 449: this opinion of Homer was adopted by many of the Latin poets; for example, by Virgil, B. xii. l. 900; by Juvenal, Sat. xv. l. 69, 70; and by Horace, Od. B. iii. O. 6, *sub finem*.

do not inform us what was the height of Nævius Pollio;[17] but we learn from them that he nearly lost his life from the rush of the people to see him, and that he was looked upon as a prodigy. The tallest man that has been seen in our times, was one Gabbaras[18] by name, who was brought from Arabia by the Emperor Claudius; his height was nine feet and as many inches.[19] In the reign of Augustus, there were two persons, Posio and Secundilla by name, who were half a foot taller than him; their bodies have been preserved as objects of curiosity in the museum of the Sallustian family.[20]

In the reign of the same emperor, there was a man also, remarkable for his extremely diminutive stature, being only two feet and a palm in height; his name was Conopas, and he was a great pet with Julia, the grand-daughter of Augustus. There was a female also, of the same size, Andromeda by name, a freed-woman of Julia Augusta. We learn from Varro, that Manius Maximus and M. Tullius, members of our equestrian order, were only two cubits in height; and I have myself seen them, preserved in their coffins.[21] It is far from an unknown fact, that children are occasionally born a foot and a half in height, and sometimes a little more; such children, however, have finished their span of existence by the time they are three years old.[22]

[17] Columella speaks of Cicero as mentioning this Pollio, and stating that he was a foot taller than any one else. It is most probably in Cicero's lost book, "De Admirandis," that this mention was made of him.

[18] Hardouin supposes that this was not an individual name, but a term derived from the Hebrew, descriptive of his remarkable size.—B. He supposes also that not improbably this was the same individual that is mentioned by Tacitus, Annals, B. xii. c. 12, as Acharus, a king of the Arabians.

[19] According to our estimate of the Roman measures, this would correspond to about nine feet four and a half inches of our standard.—B.

[20] "Conditorio Sallustianorum." The more general meaning attributed to the word "conditorium," is "tomb" or burial-place. We learn from other sources that the famous "gardens of Sallust" belonged to the emperor Augustus, and it is not improbable that there was a museum there of curiosities, in which these remarkable skeletons were kept.

[21] "Loculis." It is not quite clear whether this word has the meaning here of chest or coffin, or of a niche or cavity made in the wall of the tomb.

[22] Among the objects of curiosity which were exhibited by Augustus to the Roman people, as related by Suetonius, c. 43, was a dwarf named Lucius, who is there described; but he would appear to be a different person from any of those here mentioned.—B.

CHAP. 17.—CHILDREN REMARKABLE FOR THEIR PRECOCITY.

We find it stated by the historians, that the son of Euthymenes of Salamis had grown to be three cubits in height, at the age of three years; that he was slow of gait and dull of comprehension; that at that age he had attained puberty even, and his voice had become strong, like that of a man. We hear, also, that he died suddenly of convulsions of the limbs, at the completion of his third year.[23] I myself, not very long ago, was witness to exactly similar appearances, with the exception of the state of puberty, in a son of Cornelius Tacitus, a member of the equestrian order, and procurator[24] of Belgic Gaul.[25] The Greeks call such children as these, Ἐκτραπέλοι; we have no name for them in Latin.

(17.) It has been observed, that the height of a man from the crown of the head to the sole of the foot, is equal to the distance between the tips of the middle fingers of the two hands when extended in a straight line; the right side of the body, too, is generally stronger than the left; though in some, the strength of the two sides is equal; while in others again, the left side is the strongest. This, however, is never found to be the case in women.[26]

CHAP. 18.—SOME REMARKABLE PROPERTIES OF THE BODY.

Males are heavier than females, and the bodies of all animals are heavier when they are dead than when alive; they also weigh more when asleep than when awake. The dead bodies of men float upon the back, those of women with the

[23] Seneca also mentions him in his Consolation to Marcia, c. 23.

[24] The procurator of a province was an officer appointed by the Cæsar to perform the duties discharged by the quæstor in the other provinces.

[25] We have an ingenious dissertation by Ajasson, the object of which is to show, that the Tacitus here referred to, is not the historian, but his father, and consequently, that the boy prematurely born must have been the historian's brother, not his son.—B.

[26] It is not clear whether Pliny intended to apply all these three observations to the female, or only the last of them; it appears, however, that the remark is, in either case, without foundation.—B. He appears to intend that his observations should apply more especially to the strength of the arm.

face downwards; as if, even after death, nature were desirous of sparing their modesty.[27]

(18.) We find it stated, that there are some men whose bones are solid, and devoid of marrow,[28] and that one mark of such persons is the fact that they are never thirsty, and emit no perspiration. At the same time, we know that by the exercise of a resolute determination, any one may resist the feeling of thirst; a fact which was especially exemplified in the case of Julius Viator, a Roman of equestrian rank, but by birth one of the Vocontii, a nation on terms of alliance with us. Having, in his youth, been attacked by dropsy, and forbidden the use of liquids by his physicians,[29] use with him became a second nature, and so, in his old age, he never took any drink at all. Other persons also, have, by the exercise of a strong determination, laid similar restraints upon themselves.

(19.) It is said that Crassus, the grandfather of Crassus, who was slain by the Parthians, was never known to laugh; from which circumstance he obtained the name of Agelastus.[30] There are other persons again, who have never been seen to weep. Socrates, who was so famous for his wisdom, always appeared with the same countenance, and was never known to appear either more gay or more sad than ordinary. This even tenor of the mind, however, sometimes degenerates into a sort of harshness, and a rigorous and inflexible sternness of nature, entirely effacing all the human affections. The Greeks, among whom there have been many persons of this description, are in

[27] This is incorrect; the human body, after death, does not float until decomposition has commenced, when it becomes more or less buoyant, in consequence of the formation of gases, which partially distend the cavities; but we do not observe any difference in the two sexes in this respect.—B.

[28] This statement is altogether incorrect.—B.

[29] The total abstinence from liquids in dropsy, was a point much insisted upon by medical practitioners, even in modern times; but it is now generally conceived to have been derived from a false theory, and not to be essential to the cure of the disease, while it imposes upon the patient a most severe privation. A moderate use of fluids is even favourable to the operation of the remedies that are employed in this disease.—B.

[30] From the Greek ἀγέλαστος, "one who does not laugh." Cicero refers to this peculiarity in the character of Crassus, in his treatise De Finibus, B. v. c. 92; and in the Tusc. Quest. B. iii. c. 3, he informs us, on the authority of Lucilius, that Crassus never laughed but once in his life.—B. And then, on seeing a donkey eating thistles; upon which he exclaimed, "Similem habent labia lactucam," "Like lips, like lettuce."

the habit of calling them Ἀπαθεῖς.[31] A very remarkable thing, too, is the fact, that among these persons are to be found some of the greatest masters of philosophy. Diogenes the Cynic, for instance, Pyrrho, Heraclitus, and Timon, which last allowed himself to be so entirely carried away by this spirit, as to become a hater of all mankind. Less important peculiarities of nature, again, are to be observed in many persons; Antonia,[32] for instance, the wife of Drusus, was never known to expectorate; and Pomponius, the poet, a man of consular rank, was never troubled with eructation. Those rare instances of men,[33] whose bones are naturally solid and without marrow, are known to us as men "of horn."[34]

CHAP. 19. (20.)—INSTANCES OF EXTRAORDINARY STRENGTH.

Varro, speaking of persons remarkable for their strength, gives us an account of Tributanus, a celebrated gladiator, and skilled in the use of the Samnite[35] arms;[36] he was a man of meagre person, but possessed of extraordinary strength. Varro makes mention of his son also, who served in the army of Pompeius Magnus. He says, that in all parts of his body, even in the arms and hands, there was a network of sinews,[37] extending across and across. The latter of these men, having been challenged by an enemy, with a single finger of the right hand, and that unarmed,[38] vanquished him, and then

[31] "Without passion;" equivalent to our English word "apathetical."—B.

[32] The daughter of M. Antony by Octavia. She was the mother of Germanicus Cæsar, and the grandmother of the emperor Caligula, whom she lived to see on the throne, and who is supposed to have hastened her death. She was celebrated for her beauty and chastity—a rare virtue in those days.

[33] Pliny, B. xxxi. c. 45. says, that this state of the bones is found in fishermen, from their being exposed to the action of the sea and salt water; but both the fact and the supposed cause are without foundation.—B.

[34] "Cornei."

[35] It would appear that the Samnites were not only one of the most warlike people, with whom the Romans had to contest in the infancy of their state, but that they were particularly celebrated as gladiators.—B.

[36] The gladiators, called Samnites, were armed with the peculiar "scutum," or oblong shield, used by the Samnites, a greave on the left leg, a sponger on the breast, and a helmet with a crest.

[37] The term "nervus" was generally applied by the ancients to the sinews or tendons; they had a very indistinct knowledge of what are properly called the "nerves."—B.

[38] Pintianus suggests another reading here, which would appear to be

seized and dragged him to the camp. Vinnius Valens, who served as a centurion in the prætorian guard of Augustus, was in the habit of holding up waggons laden with casks, until they were emptied; and of stopping a carriage with one hand, and holding it back, against all the efforts of the horses to drag it forward. He performed other wonderful feats also, an account of which may still be seen inscribed on his monument. Varro, also, gives the following statement: "Fusius, who used to be called the 'bumpkin[39] Hercules,' was in the habit of carrying his own mule; while Salvius was able to mount a ladder, with a weight of two hundred pounds attached to his feet, the same to his hands, and two hundred pounds on each shoulder." I myself once saw,—a most marvellous display of strength,—a man of the name of Athanatus walk across the stage, wearing a leaden breast-plate of five hundred pounds weight, while shod with buskins of the same weight. When Milo, the wrestler, had once taken his stand, there was not a person who could move him from his position; and when he grasped an apple in his hand, no one could so much as open one of his fingers.

CHAP. 20.—INSTANCES OF REMARKABLE AGILITY.

It was considered a very great thing for Philippides to run one thousand one hundred and sixty stadia, the distance between Athens and Lacedæmon, in two days, until Amystis, the Lacedæmonian courier, and Philonides,[40] the courier of Alexander the Great, ran from Sicyon to Elis in one day, a distance of thirteen hundred and five stadia.[41] In our own times, too, we are

much more consistent with probability. "Inermi dextrâ superatum, et uno digito postremo correptum in castra," &c.—"Conquered him with the right hand, and that unarmed, and then with a single finger dragged him to the camp."

[39] "Rusticellus."

[40] Philonides has been already mentioned, B. ii. c. 73, as being in the habit of going from Sicyon to Elis in nine hours.—B.

[41] We may consult the learned notes of Ajassón, Lemaire, vol. iii. p. 99, respecting the exact distances here indicated by Pliny. We may remark, that a stadium is about one-eighth of a mile, according to which estimate, Philippides must have gone 142 miles in two days, and the other 150 miles in one day; as it is implied, that these journeys were performed on foot, even the former of them is obviously impossible.—B. Query, however, as to this last assertion; according to recent pedestrian feats, it does not appear to be absolutely impossible.

fully aware that there are men in the Circus, who are able to keep on running for a distance of one hundred and sixty miles; and that lately, in the consulship of Fonteius and Vipstanus,[42] there was a child eight years of age, who, between morning and evening, ran a distance of seventy-five miles.[43] We become all the more sensible of these wonderful instances of swiftness, upon reflecting that Tiberius Nero, when he made all possible haste to reach his brother Drusus, who was then sick in Germany, reached him in three stages, travelling day and night on the road; the distance of each stage was two hundred miles.[44]

CHAP. 21. (21.)—INSTANCES OF ACUTENESS OF SIGHT.

Instances of acuteness of sight are to be found stated, which, indeed, exceed all belief. Cicero informs us,[45] that the Iliad of Homer was written on a piece of parchment so small as to be enclosed in a nut-shell. He makes mention also of a man who could distinguish objects at a distance of one hundred and thirty-five miles.[46] M. Varro says, that the name of this man was Strabo; and that, during the Punic war, from Lilybæum, the promontory of Sicily, he was in the habit of seeing the fleet come out of the harbour of Carthage, and could even count the number of the vessels.[47] Callicrates[48] used to carve ants and

[42] See B. ii. c. 72.

[43] This feat is no less incredible than those mentioned above.—B.

[44] We have an account of this journey of Tiberius in Dion Cassius. Val. Maximus, B. v. c. 6, also enumerates this among the extraordinary examples of fraternal affection.—B. We learn also from Suetonius, that on learning the accident, a fall from his horse, which had happened to his brother Drusus, Tiberius took horse at Ticinum, and travelled night and day till he reached his brother, who was then in Germany, near the Rhine. He accompanied the body to Rome, preceding it on foot all the way. There is extant a "Consolation to Livia Augusta," written on this occasion, some have thought, by Pedo Albinovanus, but it is more likely to have been the work of Ovid.

[45] This statement must have been in some of his lost works.

[46] Pliny probably here refers to a passage in the Acad. Quæst. B. iv. c. 81, where Cicero speaks of a person who could see objects, it was said, at a distance of 1800 stadia, equal exactly to 125 miles.—B.

[47] The actual distance between the promontory of Sicily and the nearest part of Carthage is between fifty and sixty miles. The acute vision of Strabo is mentioned by Val. Maximus, B. i. c. 8.—B.

[48] See also B. xxxvi. c. 4. He was a Lacedæmonian sculptor, who, according to Athenæus, also executed embossed work on vases.

other small animals in ivory, so minute in size, that other persons were unable to distinguish their individual parts. Myrmecides[49] also was famous in the same line;[50] this man made, of similar material, a chariot drawn by four horses, which a fly could cover with its wings; as well as a ship which might be covered by the wings of a tiny bee.[51]

CHAP. 22. (22.)—INSTANCES OF REMARKABLE ACUTENESS OF HEARING.

We have one instance on record of remarkable acuteness of hearing; the noise of the battle, on the occasion when Sybaris[52] was destroyed, was heard, the day on which it took place, at Olympia.[53] But, as to the victory over the Cimbri,[54] and that over Perseus, the news of which was conveyed to Rome by the Castors,[55] they are to be looked upon in the light of visions and presages proceeding immediately from the gods.

[49] His works in ivory were said to have been so small, that they could scarcely be seen without placing them on black hair.

[50] Cicero, Acad. Quæst. B. iv. c. 120, speaks of "one Myrmecides, a maker of minute objects of art;" Ælian, Vac. Hist. B. i. c. 17, also speaks of these minute performances of Myrmecides, and styles them "a waste of time." Pliny, in a subsequent part of his work, B. xxxi. c. 4, speaks of similar minute works, executed by these artists in marble; but the account which he gives is scarcely credible.—B.

[51] See B. xxxvi. c. 5.

[52] It would appear that there is a little confusion here of events. Sybaris, so noted for its luxury and effeminacy, was destroyed by the people of Crotona, under the command of the athlete Milo, B.C. 510. In B.C. 360, the Crotoniats were defeated at the river Sagras, by the Locrians and Rhegians, 10,000 in number, although they are said to have amounted to 130,000. Now it was on the occasion of this *latter battle*, that, according to Cicero, De Nat. Deor. B. ii., the noise was heard at Olympia, where the games were being celebrated. Be it as it may, the story is clearly fabulous. Evelyn is much more deserving of credit, where we find him stating in his Diary, that in his garden, at Say's Court, at Deptford, he heard the guns fired in one of our engagements with the Dutch fleet, at a distance thence of nearly 200 miles.

[53] Ajasson discusses at some length, the possibility of the fact here mentioned, and concludes, that it is not to be credited: he estimates the distance between these two places at 120 miles.—B.

[54] As to the miraculous annunciation of the victory of Marius and Catulus over the Cimbri, see B. ii. c. 58.

[55] Meaning, thereby, the twin brothers, Castor and Pollux; who were said to have announced at Rome the victory gained the day before by Paulus Æmilius over King Perseus.

CHAP. 23. (23.)—INSTANCES OF ENDURANCE OF PAIN.

Of patience in enduring pain, that being too frequently the lot of our calamitous fate, we have innumerable instances related. One of the most remarkable instances among the female sex is that of the courtesan Leæna, who, although put to the torture, refused to betray the tyrant-slayers, Harmodius and Aristogiton.[56] Among those of men, we have that of Anaxarchus, who, when put to the torture for a similar reason, bit off his tongue and spit it into the face of the tyrant, thus destroying the only hope[57] of his making any betrayal.

CHAP. 24. (24.)—MEMORY.

It would be far from easy to pronounce what person has been the most remarkable for the excellence of his memory, that blessing so essential for the enjoyment of life, there having been so many who have been celebrated for it. King Cyrus knew all the soldiers of his army by name:[58] L. Scipio the names of all the Roman people. Cineas, the ambassador of king Pyrrhus, knew by name all the members of the senate and the equestrian order, the day after his arrival at Rome.

[56] This circumstance is mentioned by Pausanias, in his Attica. She was an Athenian hetæra, or courtesan, beloved by Aristogiton, or, according to Athenæus, by Harmodius. On the murder of Hipparchus, the son of Pisistratus, she was put to the torture, being supposed to have been privy to the conspiracy; but she died under her sufferings without making any disclosure, and, according to one account, bit off her tongue, that no secret might be betrayed by her. The Athenians erected in her honour a bronze statue of a lioness (in reference to her name), without a tongue, in the vestibule of the Acropolis.

[57] This story is related by Val. Maximus, B. iii. c. 3, it is also alluded to by Cicero, Tus. Quæst. B. ii. c. 22, and De Nat. Deor. B. ii. c. 33; but he only speaks of his tortures, without mentioning what Pliny states of his biting off his tongue.—B. He was a philosopher of Abdera, of the school of Democritus, and flourished about B.C. 340. Towards Alexander the Great, whom he accompanied into Asia, he acted the part of a base flatterer. He was pounded to death in a mortar, by order of Nicocreon, king of Cyprus.

[58] This statement is also made by Val. Maximus, B. viii. c. 7. Xenophon, Cyropædia, B. v., speaks of the retentive memory of Cyrus, but considerably qualifies the account here given: he says that Cyrus knew the names of all his commanders or prefects, and of all those to whom he had occasion to give particular orders.—B.

Mithridates,[59] who was king of twenty-two nations, administered their laws in as many languages, and could harangue each of them, without employing an interpreter. There was in Greece a man named Charmidas, who, when a person asked him for any book in a library, could repeat it by heart, just as though he were reading. Memory, in fine, has been made an art; which was first invented by the lyric poet, Simonides,[60] and perfected by Metrodorus of Scepsis, so as to enable persons to repeat word for word exactly what they have heard.[61] Nothing whatever, in man, is of so frail a nature as the memory; for it is affected by disease, by injuries, and even by fright; being sometimes partially lost, and at other times entirely so. A man, who received a blow from a stone, forgot the names of the letters only;[62] while, on the other hand, another person, who fell from a very high roof, could not so much as recollect his mother, or his relations and neighbours. Another person, in consequence of some disease, forgot his own servants even; and Messala Corvinus, the orator, lost all recollection of his own name. And so it is, that very often the memory appears to attempt, as it were, to make its escape from us, even while the body is at rest and in perfect health. When sleep, too, comes over us, it is cut off altogether; so much so, that the mind, in its vacancy, is at a loss to know where we are.[63]

[59] This account is similar to that given by Val. Maximus, B. viii. c. 7, and by Aulus Gellius, B. xvii. c. 7. We have a learned dissertation by Ajasson, in which he discusses the possibility of one individual understanding so great a number of languages, as well as the question, whether it is possible that so great a number of languages were spoken by the subjects of Mithridates. His conclusions greatly tend to prove both these points; Lemaire, vol. iii. p. 295.—B.

[60] This invention is referred to by Cicero, De Nat. Deor., B. ii. c. 86. Cicero also speaks of the remarkable powers of memory possessed by Charmidas and Metrodorus, De Oratore, B. ii. c. 88, and Tusc. Quæst. B. i. c. 24.—B.

[61] Ajasson gives an account of some of the principal writers in what has been termed the science of Mnemonics, or artificial memory: he particularly commends the lectures of Aimé of Paris on the subject; Lemaire, vol. iii. p. 310, *et seq.*—B.

[62] This circumstance is related by Val. Maximus, B. i. c. 8.—B.

[63] This is not always the case. In dreams we often recollect past events and localities; we know in what part of the world we are, and even remember the substance of former dreams, and the fact that we have dreamt of a similar subject before.

CHAP. 25. (25.)—VIGOUR OF MIND.

The most remarkable instance, I think, of vigour of mind in any man ever born, was that of Cæsar, the Dictator. I am not at present alluding to his valour and courage, nor yet his exalted genius, which was capable of embracing everything under the face of heaven, but I am speaking of that innate vigour of mind, which was so peculiar to him, and that promptness which seemed to act like a flash of lightning. We find it stated that he was able to write or read, and, at the same time, to dictate and listen. He could dictate to his secretaries four letters at once, and those on the most important business; and, indeed, if he was busy about nothing else, as many as seven. He fought as many as fifty pitched battles, being the only commander who exceeded M. Marcellus,[64] in this respect, he having fought only thirty-nine.[65] In addition, too, to the victories gained by him in the civil wars, one million one hundred and ninety-two thousand men were slain by him in his battles. For my own part, however, I am not going to set it down as a subject for high renown, what was really an outrage committed upon mankind, even though he may have been acting under the strong influence of necessity; and, indeed, he himself confesses as much, in his omission to state the number of persons who perished by the sword in the civil wars.

CHAP. 26.—CLEMENCY AND GREATNESS OF MIND.

With much more justice we may award credit to Pompeius Magnus, for having taken from the pirates[66] no less than eight hundred and forty-six vessels: though at the same time, over and above the great qualities previously mentioned, we must with equal justice give Cæsar the peculiar credit of a remark-

[64] The conqueror of Syracuse, and five times consul at Rome. He was born B.C. 268, and was slain in an engagement with Hannibal, B.C. 208, in the vicinity of Venusia.

[65] Ajasson remarks concerning the number of battles in which Cæsar is said to have been engaged, that it has probably been much exceeded by some of the great warriors of later times. He says that an individual, "who was raised over our heads and over all Europe, and so reigned much too long," was personally engaged in nearly 300 battles.—B.

[66] Who infested the coasts of Cilicia, and whom he dislodged from their strongholds, and almost utterly extirpated.

able degree of clemency, a quality, in the exercise of which, even to repentance, he excelled all other individuals whatsoever. The same person has left us one instance of magnanimity, to which there is nothing that can be at all compared. While one, who was an admirer of luxury, might perhaps on this occasion have enumerated the spectacles which he exhibited, the treasures which he lavished away, and the magnificence of his public works, I maintain that it was the great proof, and an incomparable one, of an elevated mind, for him to have burnt with the most scrupulous carefulness the papers of Pompeius, which were taken in his desk at the battle of Pharsalia, and those of Scipio, taken at Thapsus, without so much as reading them.[67]

CHAP. 27. (26.)—HEROIC EXPLOITS.

But now, as it belongs fully as much to the glorious renown of the Roman Empire, as to the victorious career of a single individual, I shall proceed on this occasion to make mention of all the triumphs and titles of Pompeius Magnus: the splendour of his exploits having equalled not only that of those of Alexander the Great, but even of Hercules, and perhaps of Father Liber[68] even. After having recovered Sicily, where he first commenced his career as a partizan of Sylla, but in behalf of the republic, after having conquered the whole of Africa, and reduced it to subjection, and after having received for his share of the spoil the title of "Great,"[69] he was decreed the honours of a triumph; and he, though only of equestrian rank,[70] a thing that had never occurred before, re-entered the city in the triumphal chariot: immediately after which, he hastened to the west, where he left it inscribed on the trophy which he raised upon the Pyrenees, that he had, by his victories, reduced to subjection eight hundred and seventy-six cities, from the Alps to the borders of Farther Spain; at the same time he most

[67] This fact is mentioned by Seneca, de Ira, B. ii. c. 26. Plutarch mentions a similar circumstance with respect to Pompey.—B.

[68] Or Bacchus.—"Father Liber" is the name always given to him by Pliny.

[69] "Magnus." Plutarch states, that, on his return from Africa, Sylla saluted him with the name of "Magnus," which surname he ever afterwards retained.—B.

[70] Plutarch says, that the law did not allow a triumph to be granted to any one who was not either consul or prætor.—B.

magnanimously said not a word about Sertorius.[71] After having put an end to the civil war, which indeed was the primary cause of all the foreign ones, he, though still of only equestrian rank, again entered Rome in the triumphal chariot, having proved himself a general thus often before having been a soldier.[72] After this, he was dispatched to the shores of all the various seas, and then to the East, whence he brought back to his country the following titles of honour, resembling therein those who conquer at the sacred games—for, be it remembered, it is not they that are crowned, but their respective countries.[73] These honours then did he award to the City, in the temple of Minerva,[74] which he consecrated from the spoils that he had gained: "Cneius Pompeius Magnus, Imperator, having brought to an end a war of thirty years' duration, and having defeated, routed, put to the sword, or received the submission of, twelve millions two hundred and seventy-eight thousand men, having sunk or captured eight hundred and forty-six vessels, having received as allies one thousand five hundred and thirty-eight cities and fortresses, and having conquered all the country from the Mæotis to the Red Sea, dedicates this shrine as a votive offering due to Minerva." Such, in few words, is the sum of his exploits in the East. The following are the introductory words descriptive of the triumph which he obtained, the third day before the calends[75] of October,[76] in the consulship of M. Piso and

[71] Sertorius had joined the party of Marius and Cinna, in opposition to that of Sylla. He fled into Spain, and maintained the war successfully in that country, until he was treacherously assassinated by one of his supposed partisans. This may appear a sufficient reason for his not being mentioned by Pompey.—B.

[72] "Toties imperator antequam miles." He had been raised to the highest rank without passing through the various gradations of military life.—B.

[73] Speaking of this honorary crown, Pliny says, B. xvi. c. 4, "At the present day it is not given to the victor himself, but proclamation is made that he confers the crown upon his country."

[74] It is noticed by the commentators, that Aulus Gellius, speaking of this building, calls it the Temple of Victory, B. x. c. 1; the error, it is supposed, may have arisen from Pompey having placed a statue of Victory in the Temple.—B.

[75] 29th of September.

[76] Pliny, referring to these events, in a subsequent place, B. xxvii. c. 6, says that it took place "pridie Kalend. Octob. die natalis sui." Plutarch informs us, that the triumph lasted two days, a circumstance which may

M. Messala;[77] "After having delivered the sea-coast from the pirates, and restored the seas to the people of Rome, he enjoyed a triumph over Asia, Pontus, Armenia, Paphlagonia, Cappadocia, Cilicia, Syria, the Scythians, Judæa, the Albanians, Iberia, the island of Crete, the Basterni, and, in addition to all these, the kings Mithridates and Tigranes."

The most glorious, however, of all glories, resulting from these exploits, was, as he himself says, in the speech which he made in public relative to his previous career, that Asia, which he received as the boundary of the empire, he left its centre.[78] If any one should wish, on the other hand, in a similar manner, to pass in review the exploits of Cæsar, who has shown himself greater still than Pompeius, why then he must enumerate all the countries in the world, a task, I may say, without an end.

CHAP. 28. (27.)—UNION IN THE SAME PERSON OF THREE OF THE HIGHEST QUALITIES WITH THE GREATEST PURITY.

Many other men have excelled in different kinds of virtues. Cato, however, who was the first of the Porcian family,[79] is generally thought to have been an example of the three greatest of human endowments, for he was the most talented orator, the most talented general, and the most talented politician;[80] all which merits, if they were not perceptible before him, still shone forth, more refulgently even, in my opinion, in Scipio Æmilianus, who besides was exempted from that hatred on the part of many others under which Cato laboured:[81] in conse-

assist us in reconciling these dates. The same author gives a very minute detail of all the transactions here referred to.—B.

[77] According to the chronology ordinarily adopted, this would be in the year of the City 692.—B.

[78] By Asia, as we see from the geographical portion of this work, the ancients often designated not the large tract to which we now apply the name, but a comparatively small district lying on the east of the Ægean sea.—B.

[79] See B. xiv. c. 5.

[80] Val. Maximus adds, that he was the best lawyer of his time.—B.

[81] We meet with a passage in Livy, B. xxxix. c. 44, illustrative of this view of Cato's character. In Cicero's treatise, De Senectute, where Cato bears a prominent part, frequent allusion is made to the strictness and even severity of his principles, although the general impression which we receive of his character and manners is highly interesting, and, upon the whole, not unamiable.—B.

quence of which it was, what must be owned to be a peculiarity in Cato's career, that he had to plead his own cause no less than four and forty times;[82] and yet, though no person was so frequently accused, he was always acquitted.

CHAP. 29. (28.)—INSTANCES OF EXTREME COURAGE.

A minute enquiry by whom the greatest valour has ever been exhibited, would lead to an endless discussion, more especially if all the fables of the poets are to be taken for granted. Q. Ennius admired T. Cæcilius Denter[83] and his brother to such a degree, that on their account he added a sixteenth book to his Annals. L. Siccius Dentatus, who was tribune of the people in the consulship of Spurius Tarpeius and A. Aterius,[84] not long after the expulsion of the kings, has also very numerous testimonies in his favour. This hero fought one hundred and twenty battles, was eight times victorious in single combat, and was graced with forty-five wounds in the front of the body, without one on the back. The same man also carried off thirty-four spoils,[85] was eighteen times presented with the victor's spear,[86] and received twenty-five pendants,[87] eighty-three

[82] Plutarch says, that nearly fifty impeachments were brought against him, the last when he was eighty-six years of age.—B.

[83] There has been considerable difficulty in ascertaining who was the individual here referred to; the subject is discussed at some length by Hardouin, who shows that it is probable, that it was Lucius Cæcilius, who was slain in a battle with the Gauls, A.U.C. 470, and in the consulship of Dolabella and Domitius.—B.

[84] The name of this consul has been the subject of much discussion among the commentators. Livy, B. iii. c. 31, has been referred to, as calling him Atermius; but in some of the best editions, he is named Aterius. The tribunate of Dentatus took place A.U.C. 299, fifty-five years after the expulsion of the kings.—B.

[85] When a Roman overcame an enemy with whom he had been personally engaged, he took possession of some part of his armour and dress, which might bear testimony to the victory; this was termed the "spolium."—B.

[86] "Hasta pura;" these words, according to Hardouin, signify a lance without an iron head. We are told that it was given to him who gained the first victory in a battle; it was also regarded as an emblem of supreme power, and as a mark of the authority which one nation claimed over another.—B.

[87] "Phaleris." These were bosses, discs or crescents of metal, sometimes gold. They were mostly used in pairs, and as ornaments for the helmet; but we more commonly read of them as attached to the harness

torcs,[88] one hundred and sixty bracelets,[89] twenty-six crowns, (of which fourteen were civic, eight golden, three mural, and one obsidional), a fisc[90] of money, ten prisoners, and twenty oxen altogether.[91] He followed in the triumphal processions of nine generals, who mainly owed their victories to his exertions; besides all which, a thing that I look upon as the most important of all his services, he denounced to the people T. Romilius,[92] one of the generals of the army, at the end of his consulship, and had him convicted of having made an improper use of his authority.[93]

The military honours of Manlius Capitolinus would have been no less splendid than his, if they had not been all effaced at the close of his life. Before his seventeenth year, he had

of horses, and worn as pendants from the head, so as to produce a terrific effect when shaken by the rapid movements of the horse.

[88] The "torques" was an ornament of gold, twisted spirally and bent into a circular form, and worn among the upper classes of the Persians, the Gauls, and other Asiatic and northern nations. They are often found both in France and Ireland, as well as in this country, but varying greatly in size and weight.

[89] Golden "armillæ," or bracelets, were worn by the Gauls on the arms and the legs. The Sabines also wore them on the left arm, at the time of the foundation of Rome.

[90] The word "fiscus" signifies a wicker basket or pannier, probably of peculiar construction, in which the Romans were accustomed to keep and carry about large sums of money. In process of time the word came to signify a treasure or money-chest.

[91] We have nearly the same detail of the honours bestowed on Dentatus by Val. Maximus, B. iii. c. 2. Pliny again speaks of Dentatus, and the honours bestowed upon him, B. xxii. c. 5; and especially notices the "corona graminea," the grass or obsidional crown, as the highest of his honours. The different kinds of honorary crowns are very fully described in B. xvi. c. 3, 4, and 5; in B. xxii. c. 4, we have a particular account of the "corona graminea;" in c. 5, mention is made of its having been given to Dentatus, and, in the next, other individuals are enumerated to whom it had been presented.—B.

[92] T. Romilius Rocus Vaticanus was consul B.C. 455. Having defeated the Æqui, and gained immense booty, instead of distributing it among the soldiers, he and his colleague sold it, on account of the poverty of the treasury. They were, in consequence, brought to trial, and Veturius was sentenced to pay 10,000 asses. He was, however, elected augur in 453, as some compensation for the ill-treatment he had experienced.

[93] Livy, B. iii. c. 31, gives an account of the conviction of Romilius, but says, that it was effected by C. Claudius Cicero, the tribune of the people. To obviate the discordance in the names, some commentators have proposed to substitute the words "Lucio Siccio" for "Claudio Cicerone."—B.

gained two spoils, and was the first of equestrian rank who received a mural crown; he also gained six civic crowns, thirty-seven donations, and had twenty-three scars on the fore-part of his body. He saved the life of P. Servilius, the master of the horse, receiving wounds on the same occasion in the shoulders and the thigh. Besides all this, unaided, he saved the Capitol, when it was attacked by the Gauls, and through that, the state itself; a thing that would have been the most glorious act of all, if he had not so saved it, in order that he might, as its king, become its master.[94] But in all matters of this nature, although valour may effect much, fortune does still more.

No person living, in my opinion at least, ever excelled M. Sergius,[95] although his great-grandson, Catiline, tarnished the honours of his name. In his second campaign he lost his right hand; and in two campaigns he was wounded three and twenty times; so much so, that he could scarcely use either his hands or his feet; still, attended by a single slave, he afterwards served in many campaigns, though but an invalided soldier. He was twice taken prisoner by Hannibal, (for it was with no ordinary enemy that he would engage,) and twice did he escape from his captivity, after having been kept, without a single day's intermission, in chains and fetters for twenty months. On four occasions he fought with his left hand alone, two horses being slain under him. He had a right hand made of iron, and attached to the stump, after which he fought a battle, and raised the siege of Cremona, defended Placentia, and took twelve of the enemy's camps in Gaul. All this we learn from an oration of his, which he delivered when, in his prætorship, his colleagues attempted to exclude him from the sacred rites, on the ground of his infirmities.[96] What heaps upon heaps of crowns would he have piled up, if he had only had other enemies! For, in matters of this nature, it is of the first importance to consider upon what times in especial the valour of

[94] We have an account of the victories, honours, and unfortunate fate of Manlius in Livy, B. vi. c. 14—20. In enumerating the honours conferred upon him, the numbers are given somewhat differently in c. 20; thirty spoils of enemies slain, forty donations from the generals, two mural and eight civic crowns.—B.

[95] M. Sergius Silus. He was one of the city prætors B.C. 197.

[96] Among the Jews and other nations of antiquity, it was considered an essential point for the priests to be without blemish, perfect and free from disease.—B.

each man has fallen. What civic crowns did Trebia, what did the Ticinus, what did Lake Thrasymenus afford? What crown was there to be gained at Cannæ, where it was deemed the greatest effort of valour to have escaped[97] from the enemy? Other persons have been conquerors of men, no doubt, but Sergius[98] conquered even Fortune herself.[98*]

CHAP. 30. (29.)—MEN OF REMARKABLE GENIUS.

Among so many different pursuits, and so great a variety of works and objects, who can select the palm of glory for transcendent genius? Unless perchance we should agree in opinion that no more brilliant genius ever existed than the Greek poet Homer, whether it is that we regard the happy subject of his work, or the excellence of its execution. For this reason it was that Alexander the Great—and it is only by judges of such high estate that a sentence, just and unbiassed by envy, can be pronounced in the case of such lofty claims—when he found among the spoils of Darius, the king of Persia, a casket for perfumes,[99] enriched with gold, precious stones, and pearls, covered as he was with the dust of battle, deemed it beneath a warrior to make use of unguents, and, when his friends were pointing out to him its various uses, exclaimed, "Nay, but by Hercules! let the casket be used for preserving the poems of Homer;" that so the most precious work of the human mind might be placed in the keeping of the richest work of art. It was the same conqueror, too, who gave directions that the

[97] In allusion to the compliment paid by the senate to the consul, M. Terentius Varro, by whose rashness the battle of Cannæ was lost. On his escape and safe return to Rome, instead of visiting him with censure, he received the thanks of the senate, "that he had not despaired of the republic."

[98] It appears somewhat remarkable, considering the extraordinary acts of valour here enumerated, as performed by Sergius, that we hear so little of him from other sources.—B.

[98*] Hardouin takes the meaning to be, that though ill fortune overtook the Romans in their wars with Hannibal, nevertheless Sergius defeated Fortune herself, in dying before his country was overwhelmed by those calamities.

[99] Pliny informs us, B. xiii. c. 1, that the art of making perfumes originated with the Persians.—B.

descendants and house of the poet Pindar[1] should be spared, at the taking of Thebes. He likewise rebuilt the native city[2] of Aristotle, uniting to the extraordinary brilliancy of his exploits this speaking testimony of his kindliness of disposition.

Apollo impeached by name the assassins of the poet Archilochus[3] at Delphi. While the Lacedemonians were besieging Athens, Father Liber ordered the funeral rites to be performed for Sophocles, the very prince of the tragic buskin; repeatedly warning their king, Lysander, in his sleep, to allow of the burial of his favourite. Upon this, the king made enquiry who had lately died in Athens; and understanding without any difficulty from the Athenians to whom the god referred, he allowed the funeral rites to be performed without molestation.

CHAP. 31. (30.)—MEN WHO HAVE BEEN REMARKABLE FOR WISDOM.

Dionysius the tyrant, who otherwise manifested a natural propensity for cruelty and pride, sent a vessel crowned with garlands to meet Plato, that high-priest of wisdom; and on his disembarcation, received him on the shore, in a chariot drawn by four white horses. Isocrates was able to sell a single oration of his for twenty talents.[4] Æschines, the great Athenian orator, after he had read to the Rhodians the speech which he had made on the accusation of Demosthenes, read the defence made by Demosthenes, through which he had been driven into exile among them. When they expressed their admiration of it, "How much more," said he, "would you have admired it, if you had heard him deliver it him-

[1] The city was taken by him by assault, and all its buildings, with the exception of the house of Pindar, levelled to the ground; most of the inhabitants were slaughtered, and the rest sold as slaves.

[2] Stagirus, or Stagira, a town of Macedonia, in Chalcidice, on the Strymonic Gulf. It was a colony of Andros, founded B.C. 656, and originally called Orthagoria. It was destroyed by Philip, and, according to some accounts, was rebuilt by *him*, as having been the native place of Aristotle.

[3] Archilochus of Paros was one of the earliest Ionian lyric poets, and was the first who composed in Iambic verse according to fixed rules. He flourished about 714—676 B.C. Pliny speaks here of his murderers; but it is generally stated by historians that he was murdered by one individual, by some called Calondas, or Corax, a Naxian, by others Archias.

[4] We may here refer to some remarks by Hardouin and Ajasson on the actual sum obtained by Isocrates; Lemaire, vol. iii. pp. 126, 127.—B.

self;"[5] a striking testimony, indeed, given in adversity, to the merit of an enemy! The Athenians sent their general, Thucydides, into banishment, but recalled him as their historian, admiring his eloquence, though they had punished his want of valour.[6] A strong testimony, too, was given to the merit of Menander, the famous comic poet, by the kings of Egypt and Macedonia, in sending to him a fleet and an embassy; though, what was still more honourable to him, he preferred enjoying the converse of his literary pursuits to the favour of kings.

The nobles too of Rome have given their testimonies in favour of foreigners, even. Cn. Pompeius, after having finished the war against Mithridates, when he went to call at the house of Posidonius, the famous teacher of philosophy, forbade the lictor to knock at the door, as was the usual custom;[7] and he, to whom both the eastern and the western world had yielded submission, ordered the fasces to be lowered before the door of a learned man. Cato the Censor, after he had heard the speech of Carneades,[8] who was one of the embassy sent

[5] This anecdote is related by Cicero, De Oratore, B. iii. c. 56, and by Val. Maximus, B. viii. c. 10.—B.

[6] This is rather a strong expression, and it is doubtful if the great historian at all deserves it. The facts of the case seem to have been as follow. Thucydides was employed in a military capacity, and was in command of an Athenian squadron of seven ships at Thasos, B.C. 424, when Eucles, who commanded in Amphipolis, sent for his assistance against Brasidas, who was before that town with an army. Fearing the arrival of a superior force, Brasidas offered favourable terms to Amphipolis, which were readily accepted, as there were but few Athenians in the place. Thucydides arrived at Eion, on the mouth of the Strymon, the evening of the same day on which Amphipolis surrendered: and though too late to save Amphipolis, prevented Eion from falling into the hands of the enemy. It was in consequence of this failure, that he became voluntarily an exile, perhaps to avoid the still severer punishment of death, which appears to have been the penalty of such a failure as that which he had, though unavoidably, committed. It is most probable that he returned to Athens about B.C. 403, the period of its liberation by Thrasybulus.

[7] The following passage in Livy, B. vi. c. 34, may serve to illustrate this remark of Pliny:—"The lictors of Sulpicius, the military tribune, when he went home from the forum, knocked at the door with his staff, as the usual custom is."

[8] Of Cyrene, the Academic philosopher. In B.C. 155, being then fifty-eight years old, he was chosen with some others to deprecate the fine of 500 talents which had been imposed on the Athenians for the destruction of Oropus. It was then that, in presence of Cato the Elder, he delivered

from Athens, of three men famous for their learning, gave it as his opinion, that the ambassadors ought to be dismissed as soon as possible, because, in consequence of his ingenious method of arguing, it became extremely difficult to distinguish truth from falsehood.[9] What an extraordinary change too in our modes of thinking! This Cato constantly gave it out as his decided opinion that all Greeks ought to be expelled from Italy, while, on the other hand, his great-grandson, Cato of Utica, upon his return from his military tribuneship, brought back with him a philosopher, and a second one[10] when he returned from his embassy to Cyprus;[11] and it is a very remarkable fact, that the same language which had been proscribed by one of the Cato's, was introduced among us by the other. But let us now give some account of the honours of our own countrymen.

The elder Africanus ordered that the statue of Ennius should be placed in his tomb, and that the illustrious surname, which he had acquired, I may say, as his share of the spoil on the conquest of the third part of the world, should be read over his ashes, along with the name of the poet.[12] The Emperor Augustus, now deified, forbade the works of Virgil to be burnt, in opposition to the modest directions to that effect, which the poet had left in his will: a prohibition which was a greater compliment paid to his merit, than if he himself had recommended his works.

M. Varro[13] is the only person, who, during his lifetime, saw

his famous orations on Justice. The first oration was in commendation of the virtue, and on the ensuing day the next was delivered, by which all the arguments of the first were answered, and justice shown to be not a virtue, but only a matter of compact for the maintenance of civil society. The honesty of Cato was greatly shocked at this, and he moved the senate to send the philosopher back to his school, and save the Roman youth from his demoralizing doctrines. He lived twenty-eight years after this, and died at Athens B.C. 129, aged eighty-five, or, according to Cicero, ninety.

[9] This is related by Plutarch, in his Life of Cato. His general dislike of the Grecian character is again mentioned, B. xxix. c. 7.—B.

[10] See B. xxxiv. c. 19.

[11] We have an account of this embassy in Plutarch. Pliny informs us, B. xxxiv. c. 20, that the only article which Cato retained, of the works of art that he brought from Cyprus, was the statue of Zeno, "not for its intrinsic merit, but because it was the statue of a philosopher." Valerius Paterculus, B. ii. c. 45, and Plutarch refer to this transaction.—B.

[12] This circumstance is related by Valerius Maximus, B. viii. c. 14, and is referred to by Cicero in his defence of Archias, sec. 9.—B.

[13] M. Varro, the philosopher, sometimes called "the most learned" of

his own statue erected. This was placed in the first public library that was ever built, and which was formed by Asinius Pollio with the spoils of our enemies.[14] The fact of this distinction being conferred upon him by one who was in the first rank, both as an orator and a citizen, and at a time, too, when there was so great a number of men distinguished for their genius, was not less honourable to him, in my opinion, than the naval crown which Pompeius Magnus bestowed upon him in the war against the pirates. The instances that follow among the Romans, if I were to attempt to reckon them, would be found to be innumerable; for it is the fact that this one nation has furnished a greater number of distinguished men in every branch than all the countries of the world taken together.[15]

But what atonement could I offer to thee, Marcus Tullius,[16] were I to be silent respecting thy name? or on what ground am I to pronounce thee as especially pre-eminent? On what, indeed, that can be more convincing than the most abundant testimony that was offered in thy favour by the whole Roman people? Contenting myself with the selection only of such of the great actions of the whole of your life, as were performed during your consulship.—You speak, and the tribes surrender the Agrarian law, or, in other words, their very subsistence;[17] you advise them to do so, and they pardon Roscius,[18] the author of the

the Romans. His command under Pompey, in the war against the Pirates, has been already mentioned in B. iii. c. 16. He also served under him against Mithridates, and was his legatus in Spain, at the first outbreak of the civil wars.

[14] Pliny refers to the same subject: in B. xxxv. c. 2, he speaks of Pollio as "qui primus, bibliothecam dicando, ingenia hominum rempublicam fecit"—"The first who, by forming a public library, made public property the genius of learned men." Aulus Gellius, B. vi. c. 18, informs us, that the first library, formed for the use of the public, was that collected at Athens by Pisistratus.—B. Ptolemy Philadelphus, the king of Pergamus, and Lucullus, had formed extensive libraries, but solely for their own use, and not that of the public.

[15] Some of these are given by Val. Maximus, B. viii. c. 15.—B. It is very doubtful, however, if Greece did not greatly excel Rome in this respect.

[16] Meaning Cicero, the orator and philosopher.

[17] Cicero, in an Epistle to Atticus, B. ii. c. i., enumerates what he styles his consular orations: the total number is twelve, and among them we find all those here referred to by Pliny.—B.

[18] The individual referred to is L. Roscius Otho; by his law the Roman equites, who, before this time, sat mingled with the people generally, had

law for the regulation of the theatres, and, without any feelings of resentment, allow a mark to be put upon themselves by allotting them an inferior seat; you entreat, and the sons of proscribed men blush at having canvassed for public honours: before your genius, Catiline took to flight, and it was you who proscribed M. Antonius. Hail then to thee, who wast the first of all to receive the title of Father of thy country,[19] who wast the first of all, while wearing the toga, to merit a triumph, and who didst obtain the laurel for oratory. Great father, thou, of eloquence and of Latin literature! as the Dictator Cæsar, once thy enemy, wrote in testimony of thee,[20] thou didst require a laurel superior to every triumph! How far greater and more glorious to have enlarged so immeasurably the boundaries of the Roman genius, than those of its sway!

(31.) Those persons among the Romans, who surpass all others in wisdom, have the surnames of Catus and Corculus[21] given to them. Among the Greeks, Socrates was declared by the oracle of the Pythian Apollo to be superior to all others in wisdom.

CHAP. 32. (32.)—PRECEPTS THE MOST USEFUL IN LIFE.

Again, men have placed on an equality with those of the oracles the precepts uttered by Chilon,[22] the Lacedæmonian. These have been consecrated at Delphi in letters of gold, and are to the following effect: "That each person ought to know himself, and not to desire to possess too much;"[23] and "That misery is the sure companion of debt and litigation." He died of

appropriate seats allotted to them. Cicero designates this oration, "De Othone."—B.

[19] This title was bestowed upon him by the general acclamation of the people, at the end of his consulship. We have an account of it in Plutarch.—B.

[20] This remark is not found in any of Cæsar's works now extant.—B.

[21] These terms signify "acute" and "judicious;" they are derived respectively from "cautus" and "cor."—B.

[22] Son of Damagetus, and one of the Seven Sages. He flourished towards the beginning of the sixth century B.C. Herodotus says that he held the office of Ephor Eponymus in Ol. 56. He was a man remarkable for his wisdom and his sententious brevity, so characteristic of his Spartan origin.

[23] It appears somewhat doubtful to which of the Grecian sages the credit of this maxim is due.—B.

joy, on hearing that his son had been victorious in the Olympic games, and all Greece assisted at his funeral rites.

CHAP. 33. (33.)—DIVINATION.

A spirit of divination, and a certain communion with the gods, of the most exalted nature, was manifested—among women, in the Sibyl, and among men, in Melampodes,[24] the Greek, and in Marcius,[25] the Roman.

CHAP. 34. (34.)—THE MAN WHO WAS PRONOUNCED TO BE THE MOST EXCELLENT.

Scipio Nasica is the only individual who, since the commencement of the Roman era, has been declared, by a vote of the senate, confirmed by oath, to be the most excellent of men.[26] And yet, the same person, when he was a candidate for office, was twice stigmatized by a repulse of the Roman people. He was not allowed, in fine, to die in his native country,[27]—no, by Hercules! no more than Socrates, who was declared by Apollo to be the wisest of men, was permitted to die outside of a prison.

[24] We have an account of Melampus, probably the same as the person here styled Melampodes, in Herodotus, B. ii. c. 49, and B. ix. c. 34; Ajasson, in Lemaire, vol. iii. p. 135, has given a list of writers who have referred to him as an eminent soothsayer. Pliny mentions him in a subsequent passage, B. xxv. c. 21, as celebrated for his skill in the art of divination.—B.

[25] Marcius is said by Cicero, De Divin. B. i. c. 50, to have given his predictions in verses.—B.

[26] We have an account of this in Livy, B. xxix. c. 14, and B. xxxvi. c. 40; it is also referred to by Valerius Maximus, B. viii. c. 15.—B.

[27] In consequence of the number of eminent men who bore the name of Scipio, it is not easy, in all cases, to decide to which of them certain transactions ought to be referred. In this instance, it has been doubted, whether it was the same Scipio who was twice an unsuccessful candidate for the consulship, and who died in a foreign country. Livy, B. xxxv. c. 24, remarks, "P. Corn. Cn. F. Scipio" had been an unsuccessful candidate for the consulship; and afterwards, B. xxxix. c. 40, that "P. and L. Scipio" were unsuccessful candidates for the office of censor. Val. Maximus expressly states, B. v. c. 3, that it was Scipio Nasica, who, in consequence of the little estimation in which he was held by his fellow-citizens, went to Pergamus, and "lived there the remainder of his life, without feeling any regrets for his ungrateful country."—B.

CHAP. 35. (35.)—THE MOST CHASTE MATRONS.

Sulpicia, the daughter of Paterculus, and wife of Fulvius Flaccus, has been considered, in the judgment of matrons, to have been the chastest of women. She was selected from one hundred Roman ladies, who had been previously named, to dedicate a statue of Venus, in obedience to the precepts contained in the Sibylline books.[28] Again, Claudia gave strong proof of her piety and virtue, on the occasion of the introduction into Rome of the Mother of the gods.[29]

CHAP. 36. (36.)—INSTANCES OF THE HIGHEST DEGREE OF AFFECTION.

Infinite is the number of examples of affection which have been known in all parts of the world; but one in particular occurred at Rome, to which no other can possibly be compared. A woman of quite the lower class, and whose name has consequently not come down to us, having lately given birth to a child, obtained permission to visit her mother,[30] who was confined in prison; but was always carefully searched by the gaoler before being admitted, to prevent her from intro-

[28] We have this anecdote related by Valerius Maximus, B. viii. c. 15. He informs us, that it was the statue of Venus Verticordia which was ordered to be consecrated; the more readily to win the hearts of the maidens and matrons from wanton thoughts to a life of chastity.—B.

[29] Her story is told at great length by Ovid, in the Fasti, B. iv. l. 305, *et seq.* Her name was Claudia Quinta, and she is supposed to have been the sister of Appius Claudius Pulcher, and grand-daughter of Appius Claudius Cæcus. The vessel which was conveying the statue of Cybele from Pessinus to Rome having stuck fast on a shallow at the mouth of the Tiber, the soothsayers declared that none but a really chaste woman could move it. Claudia, who had been previously accused of unchastity, being in the number of the matrons who had accompanied Scipio to Ostia to receive the statue, immediately presented herself, and calling upon the goddess to vindicate her innocence, seized the rope, and the vessel moved forthwith. A statue was afterwards erected to her in the vestibule of the temple of the goddess.

[30] Solinus and Festus differ somewhat from Pliny, in stating that it was her father whose life was thus saved by the affectionate daughter. Valerius Maximus, who tells the story, says that the family was "ingenui sanguinis," meaning "of genteel origin." Such families were, however, sometimes reduced, even among the Romans, to a level with the plebeian classes.

ducing any food. At last, however, she was detected nourishing her mother with the milk of her breast; upon which, in consideration of the marvellous affection of the daughter, the mother was pardoned, and they were both maintained for the rest of their days at the public charge; the spot, too, was consecrated to Piety, a temple to that goddess being built on the site of the prison, in the consulship[31] of C. Quintius and M. Acilius, where the theatre of Marcellus[32] now stands.

The father of the Gracchi, on finding [two] serpents in his house, consulted the soothsayers, and received an answer to the effect, that he would survive if the serpent of the other sex was put to death.—"No," said he, "rather kill the serpent of my own sex, for Cornelia is still young, and may yet bear children."[33] Thus did he shew himself ready, at the same moment, to spare his wife and to benefit the state; and shortly after, his wish was accomplished. M. Lepidus died of regret for his wife, Apuleia, after having been divorced from her.[34] P. Rupilius,[35] who was at the time affected by a slight disease, instantly expired, upon news being brought to him that his brother had failed in obtaining the consulship. P. Catienus Plotinus was so much attached to his patron, that on finding himself named heir to all his property, he threw himself on the funeral pile.

[31] A.U.C. 604.

[32] This theatre is again mentioned in B. xxxvi. c. 12. It was built of stone, and erected by Augustus in honour of his nephew Marcellus.

[33] This is related by Valerius Maximus, B. v. c. 8, somewhat more in detail, and with a degree of animation, which is not frequently to be met with in that author.—B.

[33] Cicero, De Divin. B. i. c. 18, Val. Maximus, B. iv. c. 6, and Plutarch, relate this more circumstantially. The serpents were of different sexes; if the male serpent was killed, his own death was to be the *consequence*; if the female, that of his wife, Cornelia.—B.

[34] Pliny gives an account of the circumstances which attended the death of Lepidus, in the 54th Chapter. He was the father of the triumvir.—B.

[35] Or Rutilius, consul B.C. 132, the year after the death of Tiberius Gracchus, whose adherents he prosecuted with the greatest cruelty. He also obtained a triumph for bringing to a conclusion the Servile war. He was an intimate friend of the younger Scipio Africanus, who obtained the consulship for him, but failed in gaining that honour for his brother Lucius. About the same period, he was condemned, in the tribuneship of Caius Gracchus, for his illegal acts in the prosecution of the adherents of Tiberius Gracchus. It has been suggested that this indignity may have had a greater share than the ill success of his brother in causing his death.

CHAP. 37. (37.)—NAMES OF MEN WHO HAVE EXCELLED IN THE ARTS, ASTROLOGY, GRAMMAR, AND MEDICINE.

Innumerable are the men who have excelled in the various arts; we may, however, take a cursory survey of them, by citing the names of the principal ones. Berosus excelled in astrology; and on account of his divinations and predictions, a public statue was erected in his honour by the Athenians. Apollodorus, for his skill as a grammarian, had public honours decreed him by the Amphictyonic Council of Greece. Hippocrates excelled in medicine; before its arrival, he predicted the plague, which afterwards came from Illyria, and sent his pupils to various cities, to give their assistance. As an acknowledgment of his merit, Greece decreed him the same honours as to Hercules.[36] King Ptolemy rewarded a similar degree of skill in the person of Cleombrotus of Ceos, by a donation of one hundred talents, at the Megalensian games,[37] he having succeeded in saving the life of King Antiochus.[38] Critobulus also rendered himself extremely famous, by extracting an arrow[39] from the eye of King Philip with so

[36] Pliny again speaks of the great talents of Hippocrates, B. xxvi. c. 6, and B. xxix. c. 2.—B.

[37] We have an account of the origin of these games in Livy, B. xxix. c. 14.—B.

[38] Cleombrotus is supposed to be the same person who is mentioned in B. xxix. c. 3, as Erasistratus, the grandson of Aristotle. From Suidas we learn that a near relative of his was called Cleombrotus, though, from his perplexed language, it is impossible to say whether father or uncle. The story to which Pliny is supposed here to refer is a curious one. Antiochus, the son of Seleucus Nicator, fell in love with Stratonice, whom his father had married in his old age, but struggled to conceal his passion. The skilful physician discovered the nature of his disease; upon which he reported to Seleucus that it was incurable, for that he was in love, and it was impossible that his passion could be gratified. The king, greatly surprised, inquired who the lady was; to which Erasistratus replied that it was his own wife; whereupon Seleucus began to try and persuade him to give her up to his son. The physician upon this asked him if he would do so himself, if it were his own wife. Seleucus declared that he would; upon which Erasistratus disclosed to him the truth. Seleucus not only gave up Stratonice to his son, but resigned to him several provinces. Erasistratus was one of the most famous physicians and anatomists of antiquity.

[39] It was on this occasion that a label was said to have been fastened on the arrow, inscribed, "To Philip's right eye." The inhabitants were per-

much skill, that, although the sight was lost, there was no defect to be seen.[41] Asclepiades of Prusa, however, acquired the greatest fame of all—he founded a new sect, treated with disdain the promises of King Mithridates conveyed to him by an embassy, discovered a method of successfully treating diseases by wine,[42] and, breaking in upon the funeral ceremony, saved the life of a man, who was actually placed[43] on the funeral pile. He rendered himself, however, more celebrated than all, by staking his reputation as a physician against Fortune herself, and asserting that he did not wish to be so much as looked upon as a physician, if he should ever happen in any way to fall sick; and he won his wager, for he met his death at an extreme old age, by falling down stairs.[44]

CHAP. 38.—GEOMETRY AND ARCHITECTURE.

M. Marcellus, too, at the taking of Syracuse, offered a remarkable homage to the sciences of geometry and mechanics, by giving orders that Archimedes was to be the only person who should not be molested; his commands, however, were disregarded, in consequence of the imprudence of one of the soldiers.[45] Chersiphron, also, the Cnossian,[46] was rendered fa-

mitted to depart, however, when the city was taken, with one garment to each person.

[41] This accident occurred to Philip, at the siege of Methone, of which we have a brief account in Diodorus Siculus, B. xvi. c. 7, and in Justin, B. vii. c. 6; but neither of these authors makes any mention of Critobulus. Quintus Curtius, B. ix. c. 5, informs us, that Critobulus exhibited great skill in relieving Alexander the Great from the effects of a dangerous wound, which he received in India; but he does not refer to the fact here mentioned.—B.

[42] At the present day, this mode of treatment would have figured as the "wine-cure."

[43] See B. xxvi. c. 8.

[44] Pliny again speaks of Asclepiades, in B. xxvi. c. 7, and B. xxix. c. 5. The anecdote respecting the man who was saved from the funeral pile is referred to by Celsus, B. ii. c. 6.—B. Pliny says, in B. xxvi. c. 7, that Asclepiades first came to Rome as a teacher of rhetoric, and that being unsuccessful, he turned his attention to medicine. Bruce, the Abyssinian traveller, also met his death by falling down stairs. Rabelais, in the prologue to his Fourth Book, refers to this peculiar death of Asclepiades.

[45] This is related more at large by Val. Maximus, B. viii. c. 7, and by Plutarch.—B.

[46] Mentioned in B. xxxvi. c. 31.

mous by the admirable construction of the temple of Diana at Ephesus; Philon, by the construction of the basin at Athens, which was capable of containing one thousand vessels;[47] Ctesibius, by the invention of pneumatics and hydraulic machines; and Dinochares,[48] by the plan which he made of the city of Alexandria, founded by Alexander in Egypt. The same monarch, too, by public edict, declared that no one should paint his portrait except Apelles, and that no one should make a marble statue of him except Pyrgoteles, or a bronze one except Lysippus.[49] These arts have all been rendered glorious by many illustrious examples.

CHAP. 39. (38.)—OF PAINTING; ENGRAVING ON BRONZE, MARBLE, AND IVORY; OF CARVING.

King Attalus gave one hundred talents,[50] at a public auction, for a single picture of Aristides, the Theban painter.[51] Cæsar, the Dictator, purchased two pictures, the Medea and the Ajax of Timomachus, for eighty talents,[52] it being his intention to dedicate them in the temple of Venus Genetrix. King Candaules gave its weight in gold for a large picture by Bularchus, the subject of which was the destruction of the Magnetes. Demetrius, who was surnamed the "taker of cities,"[53] refused to

[47] Val. Maximus refers to Philon and his public works, in B. viii. c. 12. —B. He was an architect of eminence in the reign of the successors of Alexander. He built for Demetrius Phalereus, about B.C. 318, the portico of twelve Doric columns to the great temple at Eleusis. He also formed a basin in the Piræus, which was destroyed at the taking of Athens by the Romans under Sylla.

[48] See B. v. c. 11, and B. xxxiv. c. 42.

[49] Plutarch, in his life of Alexander, mentions the restriction made in favour of Lysippus, but does not extend it to Apelles; he does not speak of Pyrgoteles. We have an apposite allusion to this circumstance by Horace, Ep. B. i. l. 239, 240. Boileau has elegantly imitated Horace, in his "Discours au Roi."—B. For further particulars of him, see B. xxxiv. c. 17 and 19. He was a native of Sicyon, and at first a simple worker in bronze, but eventually obtained the highest rank among the Grecian statuaries.

[50] According to the usual estimate of the value of the Attic talent, £193 12*s*., the sum given for this picture would be about £19,000.—B.

[51] Nearly all the topics here treated of are again mentioned in B. xxxv., which is devoted to the fine arts. The 34th, 35th, and 36th Chapters of that Book, contain an account of all the celebrated painters of antiquity, and their principal works.—B.

[52] Between £15,000 and £16,000.—B.

[53] "Poliorcetes."

set fire to the city of Rhodes, lest he should chance to destroy a picture of Protogenes, which was placed on that side of the walls against which his attack was directed. Praxiteles[54] has been ennobled by his works in marble, and more especially by his Cnidian Venus, which became remarkable from the insane love which it inspired in a certain young man,[55] and the high value set upon it by King Nicomedes, who endeavoured to procure it from the Cnidians, by offering to pay for them a large debt which they owed. The Olympian Jupiter day by day bears testimony to the talents of Phidias,[56] and the Capitoline Jupiter and the Diana of Ephesus to those of Mentor;[57] to which deities, also, were consecrated vases made by this artist.

CHAP. 40. (39.)—SLAVES FOR WHICH A HIGH PRICE HAS BEEN GIVEN.

The highest price ever given for a man born in slavery, so far as I am able to discover, was that paid for Daphnus, the grammarian, who was sold by Natius of Pisaurum[58] to M. Scaurus, the first man in the state, for seven hundred thousand sesterces.[59] In our day, no doubt, comic actors have fetched a higher price, but then they were purchasing their own freedom. In the time of our ancestors, Roscius, the actor, gained five hundred thousand sesterces annually. Perhaps, too, a person might in the present instance refer to the case of

[54] We have a further account of this artist in B. xxxiv. c. 19, B. xxxv. c. 39 and 40, and B. xxxvi. c. 4.

[55] This is referred to by Pliny, B. xxxvi. c. 4, and by Valerius Maximus, B. viii. c. 4.—B.

[56] He is again mentioned in B. xxxiv. c. 19, B. xxxv. c. 34, and B. xxxvi. c. 4.—B.

[57] Mentor is noticed for his skill in carving, B. xxxiii. c. 55.—B. Littrè says, on referring to that passage, "we find that he was a worker in silver, and a maker of vases of great value." He seems disinclined to believe that he was a statuary. As Pliny tells us, *ubi supra*, none of his public works were in existence in Pliny's time. Some small cups, however, existed, which were highly prized, though some were undoubtedly spurious.

[58] Now Pesaro.

[59] We have the same difficulty in ascertaining the sums here mentioned, as in all former cases. Holland estimates the sum given for Daphnus at 300,700 sesterces, vol. i. p. 175.—B.

the army commissary[61] in the Armenian war, which was of late years undertaken in favour of Tiridates; which officer, in our own time, received his manumission from Nero for the sum of thirteen million sesterces;[62] but, in this case, the consideration was the profit to be derived from the war,[63] and it was not the value of the man that was paid for. And so, too, when Lutorius Priscus bought of Sejanus, the eunuch, Pæzon, for fifty million sesterces,[64] the price was given, by Hercules! rather to gratify the passion of the purchaser, than in commendation of the beauty of the slave. Universal sorrow and consternation then reigning, the public were too much pre-occupied with it to put a stop to a bargain of so scandalous a nature.[65]

CHAP. 41. (40.)—SUPREME HAPPINESS.

Of all nations of the earth, the Romans have, without doubt, excelled every other in the display of valour.[66] The human judgment cannot, however, possibly decide what man has enjoyed the highest degree of happiness, seeing that every one defines a state of prosperity in a way different from another, and entirely in conformity with his own notions. If we wish to form a true judgment and come to a decision, casting aside all the allurements and illusions of fortune, we are bound to say that no mortal is happy. Fortune has dealt well, and, indeed, indulgently, to him who feels that he has a right to say that he is not unhappy. For if there is nothing else, at all events, there is the fear lest fortune should fail at last; which fear itself, when it has once fastened upon us, our happiness is no longer unalloyed. And then, too, is it not the case that there is no mortal who is always wise? Would that there were

[61] "Dispensator;" we have an explanation of this term, B. xxxiii. c. 13.—B.

[62] Holland estimates the sum paid for the enfranchisement of this man at 120,000 sesterces, vol. i. p. 175.—B.

[63] In his capacity, probably, of contractor for provisions and stores.

[64] Holland estimates the price paid on this occasion at 3,500 sesterces, *ubi supra*, thus differing exceedingly from Ajasson's estimate.—B.

[65] "Quam quidam injuriam lucri fecit ille mercatus in luctu civitatis, quoniam arguere nulli vacabat." We can see the meaning of this passage, but a literal translation of it, as it stands, is out of the question.

[66] "Virtus"—"manliness," that being esteemed by the Romans the ideal of true virtue.

many to be found, who could feel a conviction that this is false, and that it had not been enunciated by an oracle itself, as it were! Mortals, vain as they are, and ingenious in deceiving themselves, calculate in the same way as the Thracians, who, according to their experience of each day, deposit in an urn a black or a white pebble; at the close of their life, these pebbles are separated, and from the relative number of each kind, they form their conclusions.[67] But really, may not that very day that has been complimented with a white pebble, have contained in itself the germ of some misfortune? How many a man has got into trouble by the very power which has been bestowed upon him? How many have been brought to ruin and plunged into the deepest misery by their own blessings? or rather, by what have been looked upon too fondly as blessings, for the hour during which they were in the full enjoyment of them. But most true it is, that it is the day after, that is the judge of the day before; and after all, it is only the last day that is to set its stamp on the whole; the consequence is, that we can put our trust in none of them. And then, too, is it not the fact that the blessings of life would not be equal to its evils, even though they were equal in number? For what pleasure is there that can compensate for the slightest grief? Alas! what a vain and unreasonable task we impose upon ourselves! We trouble ourselves with counting the *number* of days, when it is their *weight*[68] that ought to be taken into consideration.

CHAP. 42. (41.)—RARE INSTANCES OF GOOD FORTUNE CONTINUING IN THE SAME FAMILY.

During the whole course of ages, we find only one woman, and that, Lampido, the Lacedæmonian, who was the daughter of a king, the wife of a king, and the mother of a king.[69]

[67] It appears that a similar custom prevailed among the Scythians, according to Phylarchus, from whom Pliny probably took his account of it; Lemaire, vol. iii. p. 151.

[68] As being fraught with an intensity of pain, which no number of days passed in pleasure can compensate.

[69] She was the daughter of Leotychides, and the wife of Archidamas, and mother of Ægis. Ajasson expresses his surprise, that so diligent a collector of facts as Pliny, should have been acquainted with only one example of this kind.—B. "The following are additional instances collected

Berenice was the only woman who was daughter, sister, and mother of conquerors in the Olympian games.[70] The family of the Curios[71] has been the only one to produce three orators in succession; that of the Fabii alone has given three chiefs of the senate in succession, Fabius Ambustus, his son Fabius Rullianus, and his grandson Quintus Fabius Gurges.[72]

by Ajasson:—1. Olympias, daughter of Neoptolemus, king of Epirus, wife of Philip II., king of Macedon, and mother of Alexander the Great, king of Macedon. 2. Roxana, daughter of king Darius Codomannus, and wife of Alexander the Great; her son by whom was proclaimed king by certain generals of Alexander, but was shortly after slain at Amphipolis. 3. Laodice the Younger, daughter of king Antiochus Soter, sister and wife of Antiochus Theös, and mother of king Seleucus Callinicus. 4. Berenice, daughter of king Ptolemy Philadelphus; married to her brother king Ptolemy Euergetes, and mother of Ptolemy Philopater, by whom she was put to death. 5. Cleopatra, daughter of Antiochus the Great, king of Syria: she became the wife of king Ptolemy Epiphanes, and was mother of king Ptolemy Philometor. 6. Cleopatra Cocce, daughter of Ptolemy Philometor, married her uncle, king Ptolemy Physcon, and became mother of kings Ptolemy Lathyrus and Alexander I. 7. Cleopatra, another daughter of Ptolemy Philometor, married first to Alexander Balas, the usurper of the throne of Scythia, then to king Demetrius Nicator, and then to Antiochus Venator. Her sons by Nicator were Seleucus V. and Antiochus Gryphus, both of whom became kings of Syria; and her son Cyzicenius by Antiochus Venator, likewise became king of Syria. 8. Selene or Cleopatra, daughter of king Ptolemy Physcon, was married, first, to king Ptolemy Lathyrus, secondly, to king Antiochus Gryphus, and thirdly, to king Antiochus Eusebes. She was mother of king Antiochus Asiaticus. In all, she had nine kings as her near relations or connections. 9. Stratonice, daughter of king Demetrius Poliorcetes, was married first to king Seleucus Nicator, and then to king Antiochus Soter, and was mother of king Antiochus Therös.

[70] Val. Maximus, B. viii. c. 15, gives nearly the same account of a person whom he calls Pherenice; from the resemblance of the names, it has been supposed, that they may both refer to the same individual.—B.

[71] He alludes to the three persons, father, son, and grandson, known by the name of C. Scribonius Curio. The first was prætor B.C. 121, one of the most distinguished orators of his time. His son, who acquired some reputation as an orator, was tribune of the people B.C. 90, prætor B.C. 82, and consul in B.C. 76, with Cn. Octavius. He is represented as being possessed of great eloquence, and of extreme purity and brilliancy of diction, but to have had none of the other requisites of an orator. Like his son, he enjoyed the friendship of Cicero. The younger Curio was an orator of great talents, which, from want of industry, he left uncultivated. Cicero endeavoured to direct his talents into a proper channel, but all in vain, and he remained to the end a man of worthless and profligate character. He was married to Fulvia, who afterwards became the wife of Antony.

[72] Hardouin observes, that M. Fabius Ambustus was three times consul,

CHAP. 43. (42.)—REMARKABLE EXAMPLE OF VICISSITUDES.

As to examples of the vicissitudes of Fortune, they are innumerable. For what great pleasures has she ever given us, which have not taken their rise in misfortunes? And what extraordinary misfortunes have not taken their first rise in great pleasures? (43.) It was fortune that preserved the Senator, M. Fidustius,[73] who had been proscribed by Sylla, for a period of thirty-six years. And yet he was proscribed a second time; for he survived Sylla, even to the days of Antony, and, as it appears, was proscribed by him, for no other reason but because he had been proscribed before.

CHAP. 44.—REMARKABLE EXAMPLES OF HONOURS.

Fortune has determined that P. Ventidius alone should enjoy the honour of a triumph over the Parthians, and yet the same individual, when he was a child, she led in the triumphal procession of Cneius Pompeius, the conqueror of Asculum.[74] Indeed, Masurius says, that he had been twice led in triumph; and according to Cicero, he used to let out mules for the bakers of the camp.[75] Most writers, indeed, admit that his younger days were passed in the greatest poverty, and that he wore the hob-nailed shoes[76] of the common soldier. Balbus Cornelius,

Quintus Fabius Rullianus five times, and Q. Fabius Gurges three times.—B.

[73] We have a similar account of the fate of Fidustius in Dion Cassius, by whom he is named Filuscius.—B. He was at length slain by order of Antony.

[74] We have an account of the vicissitudes in the life of Ventidius Bassus in A. Gellius, B. xv. c. 4, and in Valerius Paterculus, B. ii. c. 65. We learn from these writers, that Ventidius was a native of Picenum, and that, when that city was taken by Cneius Pompeius, in the Social war, Ventidius, then an infant, was carried in his mother's arms, before the car of the conqueror.—B.

[75] The passage of Cicero referred to, occurs in a letter to Plancus, Ep. ad Fam. B. x. Ep. 18, where, speaking of Ventidius, who had united himself to the party of Antony, he says, "And I look down upon the camp of the mule-driver, Ventidius."

[76] "Caliga." A strong heavy sandal worn by the Roman soldiers and centurions; but not by the superior officers. The term "a caligâ," therefore, had the same meaning as our expression, "from the ranks." The Emperor Caligula received that surname when a boy, in consequence of wearing the caliga, and being inured to the life of a common soldier.

also, the elder, was elected to the consulate;[77] but he had previously been accused, and the judges had been charged to discuss the point whether he could or not lawfully be scourged with rods; he being the first foreigner,[78]—born even on the very shores of the ocean,—who obtained that honour, which our ancestors denied even to the people of Latium.[79] Among other remarkable instances, also, we have that of L. Fulvius,[80] the consul of the rebellious Tusculani, who, immediately upon his coming over to the Romans, obtained from them the same honour. He is the only individual who, in the same year in which he had been its enemy, enjoyed the honour of a triumph in Rome, and that too, over the people whose consul he had previously been.

Down to the present time, L. Sylla is the only man who has claimed to himself the surname of "Happy;"[81] a name which he derived, forsooth, from the bloodshed of the citizens and the oppression of his country! But what claim had he on which to found his title to this happiness? Was it the power which he had of proscribing and massacreing so many thousands of his fellow-citizens? Oh interpretation most disgraceful, and which must stamp him as "Unhappy"[82] to all future time! Were not the men who perished in those times, of the two, to be looked upon as the more fortunate—seeing that with them we sympathize, while there is no one who does not

[77] In the year A.U.C. 704.

[78] He was a native of Gades, in Spain. A party of the Roman nobles induced an inhabitant of Gades to accuse him of having illegally assumed the privileges of a Roman citizen. The cause was tried B.C. 55, and he was supported by Pompey and Crassus, and defended by Cicero. One of the tests of the being a Roman citizen, was the immunity from being scourged, according to the provisions of the Porcian law. So St. Paul, who, as a citizen of Tarsus, enjoyed the rights of a Roman citizen, says to the centurion, Acts xxii. 25, "Is it lawful for you to scourge a man that is a Roman, and uncondemned?"

[79] The accusation against Balbus appears to have been his illegal usurpation of the rights of a Roman citizen, being born a foreigner. Pliny has previously informed us, B. v. c. 5. that he was a native of Gades or Cadiz. He was elected consul A.U.C. 713.—B.

[80] L. Fulvius Curius, consul B.C. 322. In B.C. 313 he was master of the horse to the dictator, L. Æmilius.

[81] "Felix." Hardouin informs us, that he transmitted this surname to his descendants; among them was Felix, the governor of Judæa, before whom St Paul was taken for judgment.—B.

[82] "Infelix."

detest Sylla? And then, besides, was not the close of his life more horrible than the sufferings which had been experienced by any of those who had been proscribed by him? his very flesh eating into itself, and so engendering his own punishment.[84] And this, although he may have thought proper to gloss it over by that last dream of his,[85] in the very midst of which he may be said, in some measure, to have died; and in which, as he pretended, he was told that his glory alone had risen superior to all envy; though at the same time, he confessed that it was still wanting to his supreme happiness, that he had not dedicated the Capitol.[86]

CHAP. 45.—TEN VERY FORTUNATE CIRCUMSTANCES WHICH HAVE HAPPENED TO THE SAME PERSON.

Q. Metellus, in the funeral oration which he made in praise of his father, L. Metellus, who had been pontiff, twice consul,[87] dictator, master of the horse, one of the quindecemvirs for dividing the lands,[88] and the first who had elephants in his triumphal procession,[89] the same having been taken in the first

[84] According to Pliny, B. xi. c. 39, and Plutarch, Sylla was affected by what has been termed the "Morbus pediculosus" or "Lousy disease." Plutarch, however, ascribes his death to the bursting of an internal abscess; and the same cause is assigned by Val. Maximus, B. ix. c. 3.—B. It was probably of a similar disease that Herod Agrippa died, whom we find mentioned in Acts xii. 23, as being eaten of worms.

[85] Plutarch refers to a dream which Sylla had a short time before his death, but it does not seem to correspond to the one here alluded to.—B. "Plutarch relates that shortly before his death, Sylla dreamed that his son Cornelius, who died before his wife, Cecilia Metella, appeared to him, and summoned him away to join his mother. Appian also states that just before his death, Sylla beheld a spirit in a dream, which summoned him by name; upon which he called together his friends, made his will, and died soon after of a fever. Only two days before his death he finished the twenty-second book of his Memoirs, in which, foreseeing his end, he boasted of the prediction of the Chaldæans, that it was his fate to die after a happy life, and in the height of his prosperity.

[86] This is referred to by Tacitus, Hist. B. iii. c. 73.—B. Plutarch tells us that Catulus performed this ceremony of dedication.

[87] His consulships were A.U.C. 502 and 506—B.

[88] Hardouin informs us, that a certain number of public officers, which varied from three to twenty, were appointed to divide the lands of the conquered people among the Roman colonists. Lemaire, vol. iii. p. 159.—B.

[89] The commentators have endeavoured to prove, and not without some

Punic war, has left it written to the effect that his father had attained the ten greatest and best things, in the search after which wise men have spent all their lives. For, as he states, he was anxious to become the first warrior, the best orator, the bravest general, that the most important of all business should be entrusted to his charge, that he should enjoy the very highest honours, that he should possess consummate wisdom, that he should be regarded as the most distinguished senator, that he should by honourable means acquire a large fortune, that he should leave behind him many children, and that he should be the most illustrious person in the state. To refute this assertion, would be tedious and indeed unnecessary, seeing that it is contradicted more than sufficiently by the single fact, that Metellus passed his old age, deprived of his sight, which he had lost in a fire, while rescuing the Palladium from the temple of Vesta;[90] a glorious action, no doubt, although the result was unhappy: on which account it is, that although he ought not to be called unfortunate, still he cannot be called fortunate. The Roman people, however, granted him a privilege which no one else had ever obtained since the foundation of the city, that of being conveyed to the senate-house in a chariot whenever he went to the senate:[91] a great distinction, no doubt, but bought at the price of his sight.

(44.) The son also, of the same Q. Metellus, who has given the above account of his father, is considered himself to have been one of the rarest instances of human felicity.[92] For, in ad-

success, that Pliny is not correct in the remark, that the first elephants brought to Rome, were those which followed in the triumph of Metellus. He has himself informed us, B. viii. c. 6, that they were introduced by Curius Dentatus, in his triumph over Pyrrhus, some years before that of Metellus. The same fact is also stated by Florus, B. i. c. 18.—B.

[90] Ovid, Fast. B. vi. l. 436, *et seq.*, and Val. Maximus, B. i. c. 4, allude to this circumstance.—B.

[91] This fact has been supposed by Hardouin to be controverted by the statement of Aulus Gellius, who says, B. iii. c. 18, that all the senators, who had passed the curule chair, were carried to the curia or senate-house, in a chariot. But, as Ajasson correctly observes, Aulus Gellius does not assert that the senators were carried at the public expense, which was the case with Metellus.—B.

[92] Val. Maximus, B. vii. c. 1, details the various fortunate circumstances which occurred to Q. Metellus; he makes no mention, however, of the violent attack made upon him by Labeo; indeed, he expressly states, that his good fortune continued to the last moments of his life.—B.

dition to the very considerable honours which he obtained, and the surname which he acquired from the conquest of Macedonia, he was carried to the funeral pile by his four sons,[93] one of whom had been prætor, three of them consuls, two had obtained triumphs, and one had been censor; each of which honours falls to the lot of a very few only. And yet, in the very full-blown pride of his dignity, as he was returning from the Campus Martius at mid-day, when the Forum and the Capitol are deserted, he was seized by the tribune, Caius Atinius Labeo,[94] surnamed Macerion, whom, during his censorship, he had ejected from the senate, and was dragged by him to the Tarpeian rock, for the purpose of being precipitated therefrom. The numerous band, however, who called him by the name of father, flew to his assistance, though tardily, and only just, as it were, at the very last moment, to attend his funeral obsequies, seeing that he could not lawfully offer resistance, or repel force by force in the sacred case of a tribune;[95] and he was just on the very point of perishing, the victim of his virtues and the strictness of his censorship, when he was saved by the intervention of another tribune,—only obtained with the greatest difficulty,—and so rescued from the very jaws of death. He afterwards had to subsist on the bounty of others, his property having been consecrated[96] by the very man whom he had

[93] Val. Maximus, *ubi supra*, and Velleius Paterculus, B. i. c. 11, speak of the honours obtained by the four sons of Q. Metellus; they are also alluded to by Cicero in his 8th Philippic, sec. 4., and his Tusc. Quæst. B. i. c. 35.—B.

[94] Dalechamps remarks, that we find in the ancient historians a similar account relative to M. Drusus, who, when tribune of the people, hurried off the consul Philippus with such violence to prison, that the blood started from his nostrils: also of P. Sempronius, the tribune of the people, who, had it not been for the opposition offered by his colleague, would have carried the censor Appius Claudius to prison.

[95] This attack of Labeo on Metellus is mentioned in the Epitome of Livy, B. lix. The tribunes of Rome were styled "sacrosancti," and it was considered a capital crime to offer personal violence to them, under any circumstances. Hardouin remarks, that the tribune who came to the rescue of Metellus must have been a military tribune, who, in virtue of his office, had a right to claim the services of Metellus for the army.—B.

[96] Cicero, in his oration "Pro Domo suâ," sec. 47, refers to the consecration of the property of Metellus, as a case analogous to that of his own house, which had been similarly consecrated by Clodius.—B. It seems to have been the custom, when a person had been capitally condemned, for the tribune of the people to consecrate his property, with certain formali-

degraded; and who, as if that had not satiated his vengeance, still farther wreaked his malice upon him, by throwing a rope around his neck,[98] and twisting it with such extreme violence that the blood flowed from out of his ears.[99] And for my part, too, I should look upon it as in the number of his misfortunes, to have been the enemy of the second Africanus; indeed, Macedonicus, in this instance, bears testimony against himself; for he said to his sons, "Go, my children, render the last duties to Scipio; you will never witness the funeral of a greater citizen than him;" and this speech he made to his sons, one of whom had already acquired the surname of Balearicus, and another of Diadematus,[1] he himself at the time bearing that of Macedonicus.

Now, if we take into account the above injury alone, can any one justly pronounce that man happy, whose life was thus endangered by the caprice of an enemy, and that enemy, besides, not an Africanus? What victories over enemies could possibly be counterbalanced by such a price as this? What honours, what triumphs, did not Fortune cancel, in suffering a censor to be dragged through the middle of the city—indeed, that was his only resource for gaining time[2]—dragged to that

ties, to some god or goddess; after which it could not, under ordinary circumstances, be recovered, whether the sentence was revoked or not. Cicero had been capitally condemned through the instrumentality of Clodius, and obliged to fly from Rome.

[98] It was a common expression among the Romans, for a person, "ob-torto collo ad prætorem trahi," "to be dragged to the prætor with his neck wrenched;" and we meet with it repeatedly in the writings of Plautus. It would appear that it was customary for the lictors or officers of justice to seize criminals in a peculiar manner, perhaps with a rope, and with the exercise of great violence, whatever their rank.

[99] According to the remark of Dalechamps, it appears to have been not unusual with the Roman magistrates, when resistance was offered to their order, to seize the party by the throat, as is here stated to have been done by Labeo.—B.

[1] There has been considerable difficulty in ascertaining the names which should be given to the sons of Metellus, as the MSS. differ, and there appears to be no means of coming to any accurate decision, by a reference to other authorities. The essential circumstance, however, is, that two of the sons had obtained the honour of a triumph, and had acquired appropriate surnames.—B. Metellus Diadematus has been much confounded with his cousin, Metellus Dalmaticus. Diadematus was so called, from his wearing, for a long time, a bandage round his forehead, in consequence of an ulcer. He was consul B.C. 117.

[2] By being dragged, and not proceeding willingly, in order to gain time

Capitol, whither he himself, in his triumph, had forborne to drag in a similar manner even the very captives whom he had taken in his conquests? This crime, too, must be looked upon as all the greater, from its having so nearly deprived Macedonicus of the honours of his funeral, so great and so glorious, in which he was borne to the pile by his triumphant children, he himself thus triumphing, as it were, in his very obsequies. Most assuredly, there is no happiness that can be called unalloyed, when the terror of our life has been interrupted by any outrage, and much more by such an outrage as this. As for the rest, I really am at a loss whether we ought most to commend the manners of the age,[3] or to feel an increased degree of indignation, that, among so many members of the family of the Metelli, such wicked audacity as that of C. Atinius remained unpunished.

CHAP. 46.—THE MISFORTUNES OF AUGUSTUS.

In the life of the now deified emperor Augustus even, whom the whole world would certainly agree to place in this class,[4] if we carefully examine it in all its features, we shall find remarkable vicissitudes of human fate. There was his rejection from the post of master of the horse, by his uncle,[5] and the preference which was given to Lepidus, and that, too, in opposition to his own requests; the hatred produced by the proscription; his alliance in the Triumvirate[6] with some among the very worst of the citizens, and that, too, with an unequal

for succour, and so save himself from being hurled from the Tarpeian rock.

[3] Which allowed the laws to take their course, even against an individual of the first consequence in the state.—B.

[4] In the class of those who were considered peculiarly fortunate; "hâc censurâ," literally, "in this assessment," in allusion to the classification of the citizens of Rome, according to the estimate of their property.—B.

[5] In B.C. 45, when, being but about eighteen years of age, he had the presumption to ask his uncle for the office of "magister equitum;" upon which Julius Cæsar bestowed it on M. Lepidus, probably being of opinion that his nephew was not yet fit for the office.

[6] In his triumvirate with Antony and Lepidus, he showed himself no less cruel than his colleague, Antony, notwithstanding the gloss which Pliny attempts to throw over his actions. Two thousand equites and three hundred senators are said to have been put to death during this proscription.

share of influence, he himself being entirely borne down by the power of Antony; his illness[7] at the battle of Philippi; his flight, and his having to remain three days concealed in a marsh,[8] though suffering from sickness, and, according to the account of Agrippa and Mecænas, labouring under a dropsy; his shipwreck[9] on the coast of Sicily, where he was again under the necessity of concealing himself in a cave; his desperation, which caused him even to beg Proculeius[10] to put him to death, when he was hard-pressed by the enemy in a naval engagement;[11] his alarm about the rising at Perusia;[12] his anxiety at the battle of Actium;[13] the extreme danger he was in from the falling of a tower during the Pannonian war;[14] seditions so numerous among his soldiers; so many attacks by dangerous diseases;[15] the suspicions which he entertained

[7] Augustus was detained at Dyrrhachium for some time before the battle of Philippi by illness, and had not recovered when the battle took place.

[8] In the first engagement at Philippi, Brutus defeated the army of Augustus, while Cassius was defeated by Antony. Appian speaks also of his concealment in a marsh to the south of Philippi.

[9] In his war against Sextus Pompeius, his fleet was twice shattered by shipwreck off the coast of Sicily, and he suffered several defeats by sea.

[10] C. Proculeius, a member of the equestrian order, and a familiar friend of Augustus. It is of him that Horace speaks in the lines (II. Ode 2),

"Vivet extento Proculeius ævo
Notus in fratres animi paterni."

He was one of the Romans to whom Augustus thought of giving his daughter Julia in marriage. The mode of his death is mentioned in B. xxxvi. c. 59.

[11] This circumstance is stated more fully by Suetonius in his Life of Augustus; he tells, that "in crossing from Sicily to Italy to rejoin his forces, Augustus was unexpectedly attacked by Democharès and Apollophanes, two of Pompey's captains, and only escaped in a small vessel with the greatest difficulty."

[12] L. Antonius having raised an army at Prænestè, took possession of the town of Perusia, which was blockaded by Augustus, and Antonius was at last obliged to surrender. During this siege Augustus encountered several dangers, and was once nearly killed while sacrificing beneath the walls, by a band of gladiators, who came upon him unawares.

[13] The victory was long doubtful, and it was only the sudden panic of Cleopatra, that finally ensured it to Augustus.

[14] The exact nature of the accident here alluded to, is discussed by Hardouin, Lemaire, vol. iii. p. 169; he concludes, from the account of Suetonius and of Dion Cassius, that it was owing to the fall of a gallery, which extended between two towers.—B.

[15] These are fully described by Suetonius, in his Life of Augustus, c. 80 and 81.

respecting the intentions of Marcellus;[16] the disgraceful banishment, as it were, of Agrippa;[17] the many plots against his life;[18] the deaths of his own children,[19] of which he was accused, and his heavy sorrows, caused not merely by their loss;[20] the adultery[21] of his daughter, and the discovery of her parricidal designs; the insulting retreat of his son-in-law, Nero;[22] another adultery, that of his grand-daughter;[23] to

[16] M. Claudius Marcellus, the son of Octavia, sister of Augustus. He was adopted by Augustus. Tacitus seems to hint that he was greatly beloved by the Roman people, and it is not improbable that Augustus may have become suspicious or jealous of him; his decease took place in his twentieth year.

[17] To Mitylene. This refers to the jealousy between Marcellus and his brother-in-law, M. Vipsanius Agrippa. Pliny probably uses the term "pudenda," implying that Augustus showed neither firmness nor gratitude on this occasion; for anxious, at any cost, to prevent these differences, he sent Agrippa, against his will, as proconsul to Syria; immediately on which Agrippa left Rome, but stopped at Mitylene, and left the government of Syria to his legatus. Upon the death of Marcellus, Agrippa returned to Rome.

[18] Dion Cassius mentions three conspiracies, the first by Fabius Cæpio and Muræna, a second, of which he does not name the authors, and a third by Cornelius Cinna.

[19] Said in allusion to the suspicious deaths of his grandchildren Lucius and Caius, the children of his daughter Julia by Agrippa. They were probably removed by the criminal acts of Livia; but some historians have hinted that Augustus was privy to their destruction, the object of which was to remove all obstacles that lay in the way of Tiberius to the throne.

[20] Implying that he was conscience-stricken at his share in their death, as well as struck with sorrow and remorse.

[21] She was his only child; Scribonia was her mother. She was first married to her cousin Marcellus; on his death to L. Vipsanius Agrippa, and after his decease to Tiberius Nero, the son of Livia. Her profligacy was universally known, and Augustus did not scruple to enlarge upon it before the senate; but Pliny is the only writer who states that she contemplated an attempt on the life of his father; though Suetonius says that she became, at a late period of her reign, an object of interest to those who were disaffected. Julia was first banished to Pandataria, off the coast of Campania, and then to Rhegium, which she was never allowed to leave. Her death took place A.D. 14.

[22] Tiberius Nero, afterwards emperor. Pliny here alludes to his retirement to Rhodes, where he remained seven years. Tacitus represents that his chief reason for leaving Rome was to escape the society of his wife Julia, who treated him with the utmost contempt, and whose licentious life was not unknown to him. During this retreat he devoted himself to the study of astrology. He left Rome without the consent of Augustus, who was equally unwilling to allow of his return.

[23] Julia, one of the daughters of Julia and Agrippa, and the wife of L.

which there were added numerous other evils, such as the want of money to pay his soldiers; the revolt of Illyria;[24] the necessity of levying the slaves; the sad deficiency of young men;[25] the pestilence that raged in the City;[26] the famine in Italy; the design which he had formed of putting an end to his life, and the fast of four days, which brought him within a hair's breadth of death. And then, added to all this, the slaughter of Varus;[27] the base slanders[28] whispered against his authority; the rejection of Posthumius Agrippa, after his adoption,[29] and the regret to which Augustus was a prey after his banishment;[30] the suspicions too respecting Fabius, to the effect that he had betrayed his secrets; and then, last of all, the machinations of his wife and of Tiberius, the thoughts of which occupied his last moments. In fine, this same god,[31] who was raised to heaven, I am at a

Æmilius Paulus. She fully inherited the vices of her mother. For an adulterous intercourse with D. Silanus she was banished, by Augustus to Tremerus, off the coast of Apulia, where she survived twenty years, dependent on the bounty of the empress Livia. A child born after her disgrace, was, by order of Augustus, exposed as spurious. She is supposed by some to be the Corinna of Ovid's amatory poems.

[24] He probably alludes to the rising of some tribes in the provinces on the north-eastern coast of the Adriatic, in B.C. 35, who refused to pay their tribute. They were finally vanquished by Statilius Taurus, B.C. 33.

[25] After the defeat of his general Varus, by Arminius, in Germany.

[26] This pestilence is also mentioned by Dion Cassius; it took place A.U.C. 732.—B.

[27] We have an account of the disastrous expedition of Varus in Florus, B. iv. c. 12.—B.

[28] Suetonius speaks of calumnious pamphlets (libelli), that were circulated about, even in the senate-house, to his extreme disparagement.

[29] A posthumous son of M. Vipsanius Agrippa by Julia, the daughter of Augustus, by whom he was adopted together with Tiberius. He was afterwards banished to Planaria, off the coast of Corsica, on account of his savage and intractable character, though guilty of no crime. Augustus is said to have privately visited him there, which, coming to the ears of Livia, increased her enmity against this youth, and he was murdered by her orders or those of Tiberius.

[30] Tacitus, Ann. B. i. c. 3, says that he was banished by the artifices of Nero.—B.

[31] After his death his solemn apotheosis took place in the Campus Martius. In some of the coins which were struck even during his life-time, he was called "Divus," or "the god."

loss to say whether deservedly or not, died, leaving the son of his own enemy his heir.[32]

CHAP. 47. (46.)—MEN WHOM THE GODS HAVE PRONOUNCED TO BE THE MOST HAPPY.

In reference to this point, two oracles of Delphi may come under our consideration, which would appear to have been pronounced as though in order to chastise the vanity of man. These oracles were the following: by the first, Pedius was pronounced to be the most happy of men, who had just before fallen in defence of his country.[33] On the second occasion, when it had been consulted by Gyges, at that time the most powerful king in the world, it declared that Aglaüs of Psophis[34] was a more happy man than himself.[35] This Aglaüs was an old man, who lived in a poor petty nook of Arcadia, and cultivated a small farm, though quite sufficient for the supply of his yearly wants;[36] he had never so much as left it, and, as was quite evident from his mode of living, his desires being of the most limited kind, he had experienced but an extremely small share of the miseries of life.

CHAP. 48. (47.)—THE MAN WHOM THE GODS ORDERED TO BE WORSHIPPED DURING HIS LIFE-TIME; A REMARKABLE FLASH OF LIGHTNING.

While still surviving, and in full possession of his senses, by the command of the same oracle, and with the sanction of Jupiter, the supreme Father of the gods, Euthymus,[37] the pugilist, who had always, with one exception, been victorious in the Olympic games, was deified. He was a native of Locri,

[32] For Tiberius Nero, the father of Tiberius Cæsar, took the side of M. Antonius in the Civil War.—B.

[33] We have no mention of Pedius, or Phedius, as he is named in some of the MSS., in any of the ancient authors. A story of the same import is related of Solon and Tellus, by Herodotus, B. i. c. 30, and by Plutarch.—B.

[34] A town of Arcadia. See B. iv. c. 10.

[35] This is also related by Valerius Maximus, B. vii. c. 1.—B.

[36] This is very similar to Virgil's beautiful description of the old man Corycius, in the Georgics, B. iv. l. 125, *et seq.*

[37] We have some account of Euthymus in Pausanias, B. vi., and in Ælian, Var. Hist. B. viii. c. 18.—B.

in Italy. I find that Callimachus,[38] considering it a more wonderful circumstance than any he had ever known, that the two statues which had been erected to him, one at Locri, and the other at Olympia, were struck by lightning on the same day, ordered sacrifices to be offered up to him, which was accordingly done, both during his life-time, and after his death. Nothing, indeed, has appeared to me so remarkable, as this mark of approval given by the gods.

CHAP. 49. (48.)—THE GREATEST LENGTH OF LIFE.

Not only the differences of climate, but the multitude of instances named, and the peculiar destiny attached to each of us from the moment of his birth,[39] tend to render one very uncertain in forming any general conclusion respecting the length and duration of human life. Hesiod, who was the first to make mention of this subject, while he states many circumstances about the age of man, which appear to me to be fabulous, gives to the crow nine times the ordinary duration of our life, to the stag four times the length of that of the crow, to the raven three times the length of that of the stag, besides other particulars with reference to the phœnix and the Nymphs of a still more fabulous nature. The poet Anacreon gives[40] one hundred and fifty years to Arganthonius,[41] the king of the Tartessii; ten more to Cinaras,[42] the king of Cyprus, and two

[38] It has been conjectured by Poinsiret, that the word "Callimachus" does not refer to the well-known poet of that name, nor to any other individual, but that it was the title of the president of the Olympic games. The opinion is not without plausibility, but is scarcely sanctioned by sufficient authority.—B.

[39] Pliny here alludes to the doctrine of astrology, which forms the especial subject of the next Chapter.—B.

[40] These statements are not found in any of the works of Hesiod now extant; it is scarcely necessary to observe, that they are entirely without foundation, and contrary to all observation and experience.—B.

[41] The great age of Arganthonius is referred to by Lucian, in his treatise "De Macrobiis," "on Long-lived Men;" by Herodotus, B. i. c. 163; by Cicero, de Senect. sec. 19; and by Valerius Maximus, B. viii. c. 13; the three latter writers agree in making his age 120 years, and hence Pliny assigns to him the same age in the next page.—B. St. Augustine, De Civitate Dei, B. xv., quotes this passage of Pliny, and mentions the age of Arganthonius, as stated by him, to have been 152 years. For Tartessus, in Spain, see B. iii. c. 3, and B. iv. c. 36.

[42] His story is told by Ovid, Met. B. x., where he is said to have become

hundred to Ægimius.[43] Theopompus gives one hundred and fifty-three years to Epimenides of Cnossus; according to Hellenicus, some of the nation of the Epii, in Ætolia, have completed their two hundredth year; and his account is confirmed by Damastes, who relates that Pictoreus, one of this nation, who was remarkable for his size and strength, lived even to his three hundredth year. Ephorus says that some kings of Arcadia have lived three hundred years; Alexander Cornelius, that there was one Dandon, in Illyricum, who lived five hundred years. Xenophon, in his Periplus, gives to a king of the island of the Lutmii six hundred years, and, as though in that instance he had lied too sparingly, to his son eight hundred.[44] All these statements, however, have originated in a want of acquaintance with the accurate measurement of time. For some nations reckon the summer as one year, and the winter as another; others again, consider each of the four seasons a year; the Arcadians, for instance, whose years were of three months each. Others, such as the Egyptians, calculate by the moon, and hence it is that some individuals among them are said to have lived as many as one thousand years.

Let us proceed, however, to what is admitted to be true. It is pretty nearly certain, that Arganthonius of Gades[45] reigned eighty years, and he is supposed to have commenced his reign when he was forty. Masinissa, beyond a doubt, reigned sixty years,[46] and Gorgias, the Sicilian, lived one hundred and

unwittingly the father of Adonis, by his own daughter Myrrha (or Smyrna), in consequence of the anger of Venus or Aphrodite. He was said to have founded the city of Cinyra in Cyprus.

[43] Callimachus mentions a person of this name, who wrote a treatise on the art of making cheesecakes. There was also a physician so called, who flourished in the fifth century B.C., and who is said by Galen to have been the first who wrote a treatise on the probe. Whether either of these individuals is the person here alluded to, is unknown.

[44] We have the same statement as to the age of Epimenides, in Valerius Maximus, B. viii. s. 13; he also, in the same section, gives an account of the Epii, of Pictoreus, of Dandon, and of the king of the island of the Tyrians, all of which agree with the present statement, except that the person mentioned by Damastes is called Literius, and the last-named individual is styled the king of the island of the Lutmii.—B.

[45] The king of the Tartessi, mentioned above.—B.

[46] Pliny has already spoken of the vigorous old age of Masinissa, in the 12th Chapter of the present Book.—B.

eight.[47] Quintus Fabius Maximus was an augur for sixty-three years.[48] M. Perperna, and more recently, L. Volusius Saturninus, survived all those whose suffrages each had solicited on the occasion of his consulship;[49] Perperna lived ninety-eight years, and left after him only seven of those whose names, when censor, he had enrolled. Connected with this fact, it also suggests itself, and deserves to be remarked, that it has happened only once, that five successive years have ever passed without the death of a senator taking place; this was the case from the occasion on which the censors Flaccus and Albinus performed the lustration, in the year of the City 579, until the time of the succeeding censors.[50] M. Valerius Corvinus completed one hundred years, forty-six of which intervened between his first and sixth consulship.[51] He occupied the curule chair twenty-one times,[52] a thing that was never the case with any one besides. The pontiff Metellus also attained the same age.[53]

Among women also, Livia, the wife of Rutilius, exceeded her ninety-sixth year; during the reign of Claudius, Statilia, a member of a noble family, died at the age of ninety-nine; Terentia, the wife of Cicero, lived one hundred and three years, and Clodia, the wife of Ofilius, one hundred and fifteen; she had fifteen children.[54]

Lucceia, an actress in the mimes, performed on the stage

[47] We have an account of Gorgias in Cicero, de Senect. sec. 9; in Valerius Maximus, B. viii. c. 13, and in Lucian.—B.

[48] Valerius Maximus, *ubi supra*, reduces this to sixty-two years.—B.

[49] We have the same statement respecting Perperna in Valerius Maximus, but he does not mention his age.—B.

[50] The names of the succeeding censors were C. Claudius Pulcher, and T. Sempronius Gracchus.

[51] V. Maximus gives the same account of the age of Corvinus, but he states the interval between his consulships to have been forty-seven years. According to the Fasti, in Dr. Smith's *Dictionary of Antiquities*, the interval was forty-eight years, from A.U.C. 406 to A.U.C. 455.—B.

[52] The honour of the curule-chair—"sella curulis." It was attached to the offices of consul, prætor, and ædile; Corvinus had, therefore, been elected to one or other of these offices twenty-one times.—B.

[53] Valerius Maximus gives the same account of Metellus. He also informs us that Metellus, although of an advanced age when created pontiff, held the office for twenty-two years; so also Cicero, de Senect. sec. 9.—B.

[54] We have the same account of these females in Valerius Maximus. He adds, that Clodia survived all her children; Seneca, Epist. 77, also refers to the great age of Statilia.—B.

when one hundred years old, and Galeria Copiola returned to the stage, to perform in the interludes,[55] at the votive games which were celebrated for the health of the deified Augustus, in the consulship of C. Poppæus and Q. Sulpicius.[56] She had made her first appearance when eight years of age, just ninety-one years before that time, when M. Pomponius was ædile of the people, in the consulship of C. Marius and Cn. Carbo.[57] When Pompeius Magnus dedicated his great theatre, he brought her upon the stage, as being quite a wonder, considering her old age. Asconius Pedianus informs us, that Sammula also lived one hundred and ten years. I consider it less wonderful that Stephanio, who was the first to dance on the stage in comedy descriptive of Roman manners, should have[58] danced at the two secular games, those celebrated by the deified Augustus, and by Claudius Cæsar, in his fourth consulship, considering that the interval that elapsed between them was no more than sixty-three years;[59] indeed, he lived a considerable time after the last period. We are informed by Mutianus, that, on the peak of Mount Tmolus, which is called Tempsis, the people live one hundred and fifty years, and that T. Fullonius, of Bononia, was set down as of the same age, in the registration which took place under the censorship of Claudius Cæsar; and this appeared to be confirmed by comparing the present with former registrations, as well as many other proofs that he had been alive at certain periods—for that prince greatly interested himself in ascertaining the exact truth of the matter.

CHAP. 50. (49.)—THE VARIETY OF DESTINIES AT THE BIRTH OF MAN.

The present conjuncture would appear to demand from me

[55] "Emboliaria," an actress in the "embolium," or interlude of the Roman stage; also called "acroama," by Cicero. It appears to have been a concert of musical instruments, perhaps accompanied by dancing.

[56] Their consulship was A.U.C. 761.—B.

[57] Their consulship was A.U.C. 671, which would leave an interval of ninety years between her first appearance and her appearance at the votive games.—B.

[58] "Togatus saltare instituit." He acted in the "togatæ fabulæ," comedies representing Roman life, or the life of those who wore the toga, the civic costume of the Romans. The Greek comedies were called "palliatæ."

[59] The secular games of Augustus are stated by Suetonius, in his Life of Augustus, c. 31, and by Dion Cassius, to have taken place A.U.C. 739.—B.

some opinion upon the science of the stars. Epigenes[61] used to maintain that human life could not be possibly prolonged to one hundred and twelve years, and Berosus[62] that it could exceed one hundred and seventeen. The system is still in existence which Petosiris and Necepsos[63] transmitted to us, and called by them "tartemorion,"[64] from the division of the signs into four portions; from which it would appear, that life, in the region of Italy, may possibly be extended to one hundred and twenty-four years They maintain that, reckoning from the commencement of an ascending sign, no life can possibly exceed a period of ninety degrees from that point; which periods they call by the name of "anaphoræ;"[65] they say also, that these anaphoræ may be intercepted by meeting with malign stars or their rays even, or those of the sun.[66] To theirs the school of Æsculapius succeeded, which admits that the allotted duration of life is regulated by the stars, but that it is quite uncertain what is the greatest extent of the period. These say that long life is uncommon, because a very great number of persons are born at critical moments in the hours of the lunar days; for example, in the seventh and the fifteenth hours, both by day and night; these individuals are subject to the malign influence of that ascending scale of the years which is termed the "climacteric,"[67] and never hardly, when born under these circumstances, exceed the fifty-fourth year.

[61] We have an account of Epigenes, by Hardouin, Lemaire, vol. i. pp. 86, 87, where he is designated Rhodius. He is referred to by Varro, Columella, and Seneca; Pliny mentions him in other parts of his work.—B.

[62] Berosus has been referred to in the 37th Chapter of the present Book.—B.

[63] For some account of Petosiris and Necepsos, see end of B. ii.

[64] Literally, the fourth part; according to Hardouin's explanation, Lemaire, vol. iii. p. 186.—B.

[65] Literally....."repetitions." Dalechamps explains it as indicating, "that part of the heavens which is distant thirty parts; that is to say, two signs from the horoscope;" Lemaire, vol. iii. p. 187.—B.

[66] Ajasson refers us to Jul. Firmicus for an explanation of the difference which may exist in the length of the lives of individuals as depending on their natal day; Lemaire, vol. iii. p. 186. It appears to have been one of the leading tenets of the astrologers, that the favourable influence of the ascending sign is diminished or counteracted by the rays of other planets, or of the sun, falling upon the sign in certain directions or at certain angles, and that the length of the life of the individual is shortened in proportion to this injurious effect.—B.

[67] This term means, literally, "increasing by a regular scale," or, "ac-

First of all, however, it must strike us that the variations which have taken place in this science prove its uncertainty; and to this consideration may be added the experience of the very last census, which was made four years ago, under the direction of the Emperors Vespasian, father and son.[68] I shall not search through the registers;[69] I shall only cite some instances in the middle district that lies between the Apennines and the river Padus. At Parma, three persons declared themselves to be one hundred and twenty years of age; at Brixellum,[70] one was one hundred and twenty-five; at Parma, two were one hundred and thirty; at Placentia, one was one hundred and thirty; at Faventia, one woman was one hundred and thirty-two; at Bononia, L. Terentius, the son of Marcus, and at Ariminum, M. Aponius, were one hundred and forty, and Tertulla, one hundred and thirty-seven. In the hills which lie around Placentia is the town of Veleiacium,[71] in which six persons gave in their ages as one hundred and ten years, and four one hundred and twenty, while one person, M. Mucius, the son of Marcus, surnamed Felix, and of the Galerian tribe,[72] was aged one hundred and forty. Not, however, to dwell upon what is generally admitted, in the eighth region of Italy, there appeared by the register, to be fifty-four persons of

cording to a proportional series of numbers;" the multiples of 7 have been generally supposed to be the critical periods of human life, and, more especially, 63, or 9 times 7, which was accordingly termed "the grand climacteric."—B.

[68] This census appears to have taken place A.D. 74, under the fifth consulship of Vespasian, and the third of Titus; according to Censorinus, it was the last of which we have any distinct account.—B.

[69] "Vasaria;" it is said, by the commentators, to be a term of German origin, derived from a word which signified the bark of a tree. It does not appear, however, from what cause it was appropriated to the sense in which it is used by Pliny. The word is found in Cicero's oration against Piso, sec. 35; but is there applied to a totally different object.—B.

[70] Now Brigella or Brescella. Parma still retains its ancient name, Placentia is now Piacenza, and Faventia the modern Faenza.

[71] Probably the same as the Velia, mentioned by Phlegon Trallianus as famous for the longevity of its inhabitants.

[72] "Marcus Mucius, M. Filius, Galeria, Felix." It has been doubted by the commentators, whether the word Galeria refers to the name of the mother of Mucius, or to the tribe to which he belonged. The latter is, perhaps, the more natural interpretation. Hardouin and Ajasson, however, adopt the opinion, that Galeria was the mother of Marcus; Lemaire, vol. iii. pp. 191, 192. We meet with a precisely similar construction of words in Cicero, 9th Philip. sec. 7; "Ser. Sulpicius, Q. Filius, Lemonia Rufus."—B.

one hundred years of age, fourteen of one hundred and ten, two of one hundred and twenty-five, four of one hundred and thirty, the same number of one hundred and thirty-five to one hundred and thirty-seven, and three of one hundred and forty.

Again, we have another illustration of the uncertain tenure of human life. Homer informs us that Hector and Polydamas[73] were born on the same night,[74] and yet how different was their fate! M. Cælius Rufus[75] and C. Licinius Calvus were born on the same day, the fifth before the calends of June, in the consulship of C. Marius and Cn. Carbo; they both of them lived to be orators, it is true, but how different their destiny! The same thing, too, happens every day, and in every part of the world, with respect to men that are born in the self-same hour; masters and slaves, kings and beggars, come into the world at the same moment.

CHAP. 51. (50.)—VARIOUS INSTANCES OF DISEASES.

P. Cornelius Rufus,[76] who was consul with M. Curio, lost his sight while he was asleep and dreaming that that accident had befallen him. On the other hand, Jason, of Pheræ, when he was labouring under an abscess and had been given up by the physicians, determined to end his life in battle, where he received a wound in the chest, and found, at the hands of the enemy, a remedy for his disease.[77] Q. Fabius Maximus,[78] the

[73] The son of Panthöus, and friend of Hector. He was famous for his wisdom and prudence in giving counsel. See Iliad, B. xviii. l. 249—52.

[74] The passage referred to is in the Iliad, B. xviii. l. 249—51.—B.

[75] Respecting Cælius [formerly called Cæcilius in most editions] Hardouin informs us that he was the accuser of Calpurnius, that he was prætor during the consulship of P. Lentulus Spinther and L. Metellus Nepos, and was oppressed by Clodius. Pliny refers to Cælius, and his accusation of Calpurnius, in a subsequent passage, B. xxvii. c. 2.—B. Licinius Calvus Macer was by some considered, as an orator, to rival even Cicero himself; and as a poet, is generally mentioned by the side of Catullus. He exhausted his constitution by his severe application, and died in his thirty-fifth or thirty-sixth year. He was remarkable for the extreme shortness of his stature. Cælius was a partisan of Pompey, and was eventually put to death at Thurii.

[76] Consul A.U.C. 463; he is generally called Rufinus.—B.

[77] This anecdote is mentioned by Cicero, De Nat. Deor. B. iii. c. 28, and by Valerius Maximus, B. i. c. 8.—B. He was tyrant of Pheræ and Tagus in Thessaly, and was finally assassinated.

[78] He was consul A.U.C. 633; in consequence of the victories which he

consul, having engaged in battle with the Allobroges and the Arverni, at the river Isara, on the sixth day before the ides of August, and having slain there one hundred and thirty thousand of the enemy, found himself cured, during the engagement, of a quartan fever.

This gift of life, which is bestowed upon us by nature, is extremely uncertain and frail, whatever portion of it may be allotted to us. The measure is, indeed, but scanty and brief, even when it is the largest, if we only reflect upon the extent of eternity. And then, besides, if we take into account our sleep during the night, we can only be properly said to live half the period of our life; seeing that just one half of it is passed, either in a state resembling death, or else of bodily suffering, if we are unable to sleep. Added to this, we ought not to reckon the years of infancy, during which we are not sensible of our existence, nor yet the years of old age, which is prolonged only for the punishment of those who arrive at it. There are so many kinds of dangers, so many diseases, so many apprehensions, so many cares, we so often invoke death, that really there is nothing that is so often the object of our wishes. Nature has, in reality, bestowed no greater blessing on man than the shortness of life. The senses become dull, the limbs torpid, the sight, the hearing, the legs, the teeth, and the organs of digestion, all of them die before us, and yet we reckon this state as a part of our life. The solitary instance of Xenophilus, the musician,[79] who lived one hundred and five years without any infirmity of body, must be regarded then as a kind of miracle; for, by Hercules! all other men are subject, at certain fixed periods, to recurring and deadly attacks by heat or cold, in every part of the body, a thing that is not the case with other animals; and these attacks, too, return not only at regular hours, but on certain days and certain nights—sometimes the third day, sometimes the fourth, sometimes every day throughout the year.

obtained over the Allobroges, he obtained the agnomen of "Allobrogicus."—B.

[79] Valerius Maximus, B. viii. c. 13, refers to the great age of Xenophilus, but designates him "Pythagoræus;" he says that he obtained his information respecting him from Aristoxenus, the musician, which may have led to an inaccuracy on the part of Pliny. Poinsinet endeavours to reconcile the discrepancy, by the circumstance, that music formed a prominent part of the Pythagorean discipline.—B.

And then, too, there is another kind of fatal disease, that which is produced by over-exertion of the mental faculties.[80] Nature has appointed certain laws as well for our maladies; quartan fevers never commence at the winter solstice, nor yet during the winter months; some diseases never attack us after the sixtieth year; some again disappear at the age of puberty, especially in females;[81] while aged persons are but seldom affected by the plague. There are some diseases which attack whole nations; others prevail among classes; some among slaves,[82] others among the higher ranks, and others among other classes of society. It has been remarked, in reference to this subject, that the plague always takes a course from the south towards the west,[83] and scarcely ever in an opposite direction; it never appears in the winter, or lasts longer than three months.

CHAP. 52. (51.)—DEATH.

And now to speak of the premonitory signs of death. Among these are laughter, in madness;[84] in cases of delirium,[85] the patient carefully folding the fringe or the plaits of the bed-

[80] "Per sapientiam mori." Many conjectures have been formed respecting the meaning of this passage, which is obscure. Attempts have been made to amend the reading of the text, but, as it appears, without success; see the notes of Hardouin, Ajasson, and others, Lemaire, vol. iii. pp. 197, 8.—B. It is pretty clear, however, that Pliny here refers to what, in the next Chapter, he calls "sapientiæ ægritudo," the malady by the Greeks called "phrenesis," and by us "frenzy," which attacks the seat of wisdom, the understanding. Many pages have been written upon the meaning of this passage, obvious as it seems to be.

[81] The same doctrine is advanced in B. xxviii., which treats of medicine, see c. 10.—B.

[82] Among the ancients, all the manufactures and mechanical arts were carried on by slaves; they were, consequently, subjected to the same kinds of morbid causes which are found, in modern times, to be so detrimental to certain descriptions of workmen.—B.

[83] Our own experience has taught us the truth of this observation in the case of the cholera; and the great plague of 1348, which is thought to have swept off one-third of mankind, is supposed to have travelled to Europe from the vicinity of the Ganges.

[84] Dalechamps correctly remarks, that the laughter here referred to, is not the indication of mirth, but what has been termed the "risus Sardonicus," the "Sardonic laugh," produced by a convulsive action of the muscles of the face; Lemaire, vol. iii. p. 201.—B.

[85] "Sapientiæ ægritudine." See Note 80 above.

clothes;[86] insensibility to the attempts of those who would rouse them from sleep; and involuntary discharges from the body, which it is not necessary here to particularize; but the most unequivocal signs of all, are certain appearances of the eyes and the nose, a lying posture with the face continually upwards, an irregular and feeble motion of the pulse,[87] and the other symptoms, which have been observed by that prince of physicians, Hippocrates. At the same time that there are innumerable signs of death, there are none of health and safety; so much so, that Cato the Censor, when speaking to his son in relation to those who appear to be in good health, declared, as though it had been the enunciation of some oracle,[88] that precocity in youth is a sign of an early death.[89]

The number of diseases is infinite. Pherecydes of Scyros died from vast numbers of worms issuing from his body.[90] Some persons are distressed by a perpetual fever; such was the case with C. Mæcenas; during the last three years of his life, he could never get a single moment's sleep.[91] Antipater of Sidon, the poet, was attacked with fever every year, and that only on his birthday; he died of it at an advanced age.[92]

[86] Pliny probably took this notion from Celsus, who speaks of this as being a fatal symptom, B. ii. c. 6; "si manibus qui in febre, &c., in veste floccos legit, fimbriasque diducit...."—B.

[87] "Venarum percussa;" the ancients were not acquainted with the relation which exists between the arteries and the veins, or the appropriate functions of these parts.—B.

[88] In Seneca, Contr. B. ii., we find the remark, "Such genius, at so early an age, bodes no long life." Apuleius, quoting from some Greek writer, says, "Odi puerulos præcoci sapientiâ." "I hate your bits of boys, with their precocious wisdom." We have a somewhat similar saying to the above passage from Seneca, "He is *too* wise," or "too clever to live long."

[89] This remark has been confirmed by various writers, ancient and modern; it appears to depend upon an unnatural development of the cerebral and nervous system, which renders it more liable to disease, and less able to bear the impressions to which it is ordinarily exposed.—B.

[90] This was probably Phthiriasis, or the "morbus pediculosus," which has been previously mentioned in this book with reference to Sulla, and of which, probably, Herod Agrippa died. Some authors state that Pherecydes put an end to his life by throwing himself from a rock at Delphi; others give other accounts of his death.

[91] This circumstance is mentioned by Seneca, De Provid. c. 3.—B.

[92] We have the same account of Antipater in Valerius Maximus, B. i. c. 8. He was the preceptor of Cato of Utica; Cicero makes honourable mention of him, De Oratore, B. iii. c. 50.—B.

CHAP. 53. (52.)—PERSONS WHO HAVE COME TO LIFE AGAIN AFTER BEING LAID OUT FOR BURIAL.

Aviola,[93] a man of consular rank, came to life again when on the funeral pile; but, by reason of the violence of the flames, no assistance could be rendered him, in consequence of which he was burnt alive. The same thing is said to have happened to L. Lamia, a man of prætorian rank. Messala, Rufus,[94] and many other authors, inform us, that C. Ælius Tubero, who had filled the office of prætor, was also rescued from the funeral pile. Such then is the condition of us mortals: to these and the like vicissitudes of fortune are we born; so much so, that we cannot be sure of any thing, no, not even that a person is dead. With reference to the soul of man, we find, among other instances, that the soul of Hermotinus of Clazomenæ was in the habit of leaving his body, and wandering into distant countries, whence it brought back numerous accounts of various things, which could not have been obtained by any one but a person who was present. The body, in the meantime, was left apparently lifeless.[95] At last, however, his enemies, the Cantharidæ,[96] as they were called, burned the body, so that the soul, on its return, was deprived of its sheath, as it were. It is stated also, that in Pro-

[93] We have an account of the death of Aviola, in Valerius Maximus, B. i. c. 8. This name occurs in the Consular Fasti, A.U.C. 806; but it could not be that of the person referred to by Valerius Maximus, as his work was published under the reign of Tiberius, who died A.U.C. 789. We have also an account of the death of Lamia in Valerius Maximus, as occurring under the same circumstances with that of Aviola.—B.

[94] Poinsinet, vol. iii. pp. 251, 252, supposes, that Messala and Rufus are the names of two writers, and not, as usually supposed, of one only. The conjecture appears not improbable.—B.

[95] Plutarch, "De Deo Socratis," gives us the same account of Hermotinus. Ajasson has remarked, not inaptly, that this story is very similar to the modern statements as to the effect of animal magnetism, Lemaire, iii. 207.—B. Apuleius, in his "Defence," has a passage which is remarkable as clearly bearing reference to the doctrines inculcated by the mesmerists of modern times; he says, "Quin et illud mecum reputo, posse animum humanum, præsertim puerilem et simplicem seu carminum avocamento, sine odorum delenimento, soporari et ad oblivionem præsentium externari; et paulisper remotâ corporis memoriâ, redigi et redire ad naturam suam quæ est immortalis scilicet et divina; atque ita veluti quodam sopore futura rerum præsagire."

[96] We have no notice of any people, under this appellation, in Greece; Cantharus, however, occurs as the name of an individual, and possibly these may have been his descendants, or the members of his family.—B.

connesus,[97] the soul of Aristeas was seen to fly out of his mouth, under the form of a raven;[98] a most fabulous story, however, which may be well ranked with the one that follows. It is told of Epimenides[99] of Cnossus, that when he was a boy, being fatigued by heat and walking, he fell asleep in a cave, where he slept for fifty-seven years; and that when he awoke, as though it had been on the following day, he was much astonished at the changes which he saw in the appearance of every thing around him: after this, old age, it is said, came upon him in an equal number of days with the years he had slept, but his life was prolonged to his hundred and fifty-seventh year.[1] The female sex appear more especially disposed to this morbid state,[2] on account of the misplacement of the womb;[3] when this is once corrected, they immediately come to themselves again. The volume of Heraclides[4] on this subject, which is highly esteemed among the Greeks, contains the account of a female, who was restored to life, after having appeared to be dead for seven days.

[97] See B. v. c. 44.

[98] We have an account of Aristeas in Herodotus, iv. 13, but somewhat different from that here given; Aristeas is also mentioned by Apollonius in his Hist. Mirab., and A. Gellius, B. ix. c. 4.—B. He was an epic poet, who flourished in the time of Crœsus and Cyrus. Herodotus mentions a story that he reappeared at Metapontum, in Italy, 340 years after his death. He is generally represented as a magician, whose soul could leave, and re-enter his body at pleasure.

[99] A poet and prophet of Crete. The story was, that being sent by his father to fetch a sheep, he went into a cave, and fell into a sleep, from which he did not awake for fifty-seven years. On awaking, he sought for the sheep, and was astonished on finding everything altered. On returning home, he found that his young brother had in the meantime become an aged man. His story is only equalled by the famous one of the Seven Sleepers of Damascus, who fell asleep in the time of the Decian persecution of the Christians, and slept in a cave till the thirtieth year of the reign of the Emperor Theodosius, 196 years. It is not improbable that it is to this story about Epimenides, that we are indebted for the amusing story of Rip Van Winkle, by Washington Irving.

[1] We have the life of Epimenides by Diogenes Laertius, who gives an account of this long-continued sleep. It is also mentioned by other writers, but there is some difference in their statements as to its length.—B.

[2] According to the interpretation of Dalechamps, "spiritus et animæ interceptioni ac privationi," "the interception and privation of the breath and faculties;" Lemaire, vol. iii. p. 208.—B.

[3] He probably alludes to what are known among us as hysteria, or hysterical affections.

[4] We have an account of Heraclides in Diogenes Laertius; he was a native of Pontus, and a pupil of Aristotle.—B.

Varro informs us,[5] that when he was one of the "vigintiviri," or twenty commissioners,[6] appointed to superintend the division of the lands at Capua, a man who had been carried to the funeral pile, returned on foot from the Forum to his own house, and that the very same thing happened also at Aquinum. He states also, that Corfidius, who had married his maternal aunt, came to life again, after the funeral had been all arranged, and that he afterwards attended the funeral of the person who had so arranged his own. He gives in addition some other marvellous relations, the whole of which it may be as well to set forth; he says that there were two brothers, members of the equestrian order, and named Corfidius:[7] it so happened that the elder of these was seen to breathe his last to all appearance, and on opening his will, it was found that he had named his brother his heir, who accordingly ordered his funeral. In the meanwhile, however, he who had been thought to be dead, clapping his hands,[8] summoned the servants, and told them that he was just come from his brother's house, who had placed his daughter in his charge; in addition to which, he had mentioned to him the place where he had secretly buried some gold, and had requested that the funeral preparations which had been made, might be employed for himself. While he was stating to this effect, the servants of his brother came in the greatest haste, and informed them that he was dead: the gold too,

[5] This circumstance is not mentioned in either of the two works of Varro which have come down to us, "De Re Rusticâ," and "De Linguâ Latinâ."—B.

[6] They were a body of commissioners appointed for the distribution of lands in Campania; Julius Cæsar, when consul, having caused a law to be passed, dividing that territory among such of the Roman citizens as should have three or more children.

[7] We are not informed, whether these persons of the name of Corfidius, were in any way connected, nor, indeed, do we appear to have any certain knowledge of their history.—B. L. Corfidius, a Roman eques, is mentioned by Cicero, in his oration for Ligarius, B.C. 46, as one of the distinguished men who were then interceding with Cæsar on behalf of Ligarius; but after the oration was published, Cicero was informed that he had made a mistake in mentioning the name of Corfidius, as he had died before the speech was delivered. It does not appear certain that he was one of the parties here mentioned: but it is not improbable that he was the brother whose sudden death is mentioned below.

[8] Among the ancients, servants used to be summoned by clapping the hands, as they are, in modern times, by ringing of bells.—B. The same practice still prevails in the east.

was found in the place just as he had stated. But throughout the whole of our lives we are perpetually hearing of such predictions as these; they are not, however, worth collecting, seeing that they are almost always false, as we shall illustrate by the following remarkable instance.

In the Sicilian war, Gabienus, the bravest of all Cæsar's naval commanders, was taken prisoner by Sextus Pompeius, who ordered his throat to be cut; after which, his head almost severed from his body, he lay the whole of the day upon the sea-shore. Towards evening, with groans and entreaties, he begged the crowds of people who had assembled, that they would prevail upon Pompeius to come to him, or else send one of his most confidential friends, as he had just returned from the shades below, and had some important news to communicate. Pompeius accordingly sent several of his friends, to whom Gabienus stated that the good cause and virtuous partisans of Pompeius were well pleasing to the infernal deities, and that the event would shortly prove such as he wished: that he had been ordered to announce to this effect, and that, as a proof of its truthfulness, he himself should expire the very moment he had fulfilled his commission; and his death actually did take place.

We have instances also of men who have been seen after their burial; but, for the present, we are treating of the operations of nature, and not of miracles.

CHAP. 54. (53.)—INSTANCES OF SUDDEN DEATH.

Among the things that are looked upon as more especially singular, though of frequent occurrence, is sudden death, a thing that, in fact, is the greatest happiness of life, and, as we will shew, only a natural occurrence. Verrius has given many instances of it; we will limit ourselves by only making a selection. Besides Chilo, who has been already mentioned,[9] Sophocles,[10] and Dionysius,[11] the tyrant of Sicily, both of them, died

[9] In the twenty-third Chapter of the present Book.—B.

[10] Val. Maximus, B. ix. c. 12, and Diodorus Siculus, B. xiii. c. 14, gives the same account. It has been said, that, when he heard the news, he called for a draught of wine, and was choked with a grape-stone; this incident forms the subject of an epigram by Simonides, quoted by Hardouin, Lemaire, vol. iii. p. 210.—B.

[11] There is reason to believe, that the prize was given rather to the rank,

of joy, on learning that they had obtained the prize for tragedy. After the defeat at Cannæ, a mother died of joy, on seeing that her son had returned in safety, she having heard a false report of his death.[12] Diodorus, the professor of logic,[13] died of mortification, because he could not immediately answer some question which had been put to him by Stilpo, by way of joke.

Two of the Cæsars,[14] one of whom was at the time prætor, and the other had previously discharged that office, and was the father of the Dictator Cæsar, died without any apparent cause, in the morning, while putting on their shoes; the former at Pisæ, the latter at Rome. Quintus Fabius Maximus died during his consulship, on the day before the calends of January,[15] and in his place C. Rebilus got himself elected consul for only a few hours.[16] The same thing happened also to the senator, C. Volcatius Gurges; these were all of them so well, and in such perfect health, that they were actually preparing to go from home. Q. Æmilius Lepidus,[17] just as he was leaving his house, struck his great toe against the threshold of his chamber door. C. Aufustius, having gone from home, was proceeding to the senate-house, when he stumbled in the Comitium,[18] and expired. Their ambassador, who had just been pleading the cause of the Rhodians in the senate, to the admiration of every

than to the poetry of Dionysius; see the remarks of Ajasson, Lemaire, vol. iii. pp. 210, 211.—B.

[12] This anecdote is related by Livy, B. xxii. c. 7; by Valerius Maximus, B. ix. c. 12; and by Aulus Gellius, B. iii. c. 15; the two former, however, state, that it occurred after the battle of Thrasymenus.—B.

[13] Cicero, De Fato, sec. 6, styles Diodorus, "valens dialecticus."—B.

[14] According to Hardouin, these were Lucius, the prætor, and Caius, the father of the dictator; they were brothers, and the sons of C. Cæsar. —B.

[15] Thirty-first of December; consequently his tenure of office was for a few hours only. Cicero indulged in several jokes upon his consulship, remarking that no one had died during it; and that the consul was extremely vigilant, for that he had never slept during his term of office.

[16] This took place A.U.C. 708; Macrobius, in his Saturnalia, gives us an account of the jests passed by Cicero and others on the brief duration of his office.—B.

[17] He is supposed to have been the same person who was consul A.U.C. 732.—B.

[18] The Comitium was a place in the forum at Rome, where the "comitia curiata" were held, and certain offences tried and punished. It was here also that the tribunal, or "suggestum," was situate.

one, suddenly expired at the door of the senate-house, just as he was about to retire. Cn. Bæbius Tamphilus,[19] who had been prætor also, expired while he was enquiring of a boy[20] what time it was: Aulus Pompeius[21] died just after saluting the gods in the Capitol; and M. Juventius Thalna,[22] the consul, while he was sacrificing. C. Servilius Pansa expired at the second hour of the day,[23] while he was standing in the Forum, near a shop there,[24] and leaning on the arm of his brother, Publius Pansa: the judge Bæbius, while he was giving an order for an enlargement of bail:[25] M. Terentius Corax, while he was making an entry in his note-book in the Forum: only last year too, a member of the equestrian order at Rome, while whispering in the ear of a man of consular rank, before the ivory Apollo, in the Forum[26] of Augustus;[27] and, what is more singular than all, C. Julius, the physician, while he was applying, with his probe,[28] some ointment to the eye of a patient. Aulus Manlius Torquatus, a man of consular rank, died in the act of reaching a cake at dinner; L. Tuscius Valla, the physician, while he was taking a draught of honeyed wine;[29]

[19] We are informed by Hardouin, that he held the office of Prætor A.U.C. 660.—B.

[20] "A puero;" not necessarily a slave, as Littrè seems to think.

[21] On Hardouin's authority, we learn that A. Pompeius was surnamed Bithynicus, and was prætor A.U.C. 680.—B.

[22] The death of Thalna is given somewhat more in detail by Valerius Maximus, B. ix. c. 12; it took place A.U.C. 590.—B.

[23] The ancients reckoned the hours from sun-rise; in summer, the second hour of the day would be six o'clock A.M., and in the winter, a quarter past eight.—B.

[24] Bankers, and usurers more especially, had their shops in the Roman Forum.

[25] "Cum vadimonium differri jubet."—B.

[26] Augustus built a third Forum, because the old one and that of Julius Cæsar, were not found sufficient for the great increase of business. He adorned it with a temple of Mars, and the statues of the most distinguished Romans.

[27] According to Hardouin, this ivory statue was in the eighth region of the city.—B.

[28] "Specillum;" this instrument is mentioned by Celsus, B. vi. c. 6, 25, *et alibi*. There has been a considerable discussion among the commentators respecting the "specillum;" see Lemaire, vol. iii. pp. 213, 214. From the uses to which it was applied by Celsus, we can have little doubt upon the subject. Poinsinet and Ajasson employ the equivalent French term "eprouvette."—B.

[29] "Mulsum" was the most universally esteemed of all the beverages

Ap. Saufeius, while, on his return from the bath, after drinking some honeyed wine and water, he was swallowing an egg: P. Quinctius Scapula, while he was dining with Aquilius Gallus: Decimus Saufeius, the scribe, while he was breakfasting at his house. Corn. Gallus,[30] who had filled the office of prætor, and Titus Haterius,[31] a man of equestrian rank, died in the venereal act; and, a thing that was especially remarked by those of our day, two members of the equestrian order expired in the embraces of the same actor of pantomimes, Mysticus by name, who was remarkable for his singular beauty.

But the most perfect state, to all appearance, of security from death, was that of which we have an account given by the ancients, in the case of M. Ofilius Hilarus. He was an actor, and after having been very greatly applauded by the people, was giving, on his birthday, an entertainment. During dinner he called for a cup of warm drink; at the same time, looking at the masque which he had worn during the day, he placed upon it the chaplet,[32] which he had taken from his own head; and in that position he remained rigidly fixed, without moving, no one being aware of what had taken place, until the person who was reclining next to him reminded him that the drink was getting cold; upon which he was found to be dead.

These are instances of persons dying a happy death;[33] but,

used among the Romans. It seems to have been of two kinds: in the one case honey was mixed with wine, in the other with must. Massic or Falernian wine was preferred for the purpose, and new Attic honey. The proportions were four measures of wine to one of honey; and various perfumes and spices were added. See B. xxii. c. 4. It was especially valued as the most appropriate draught on an empty stomach.

[30] The Cornelius Gallus here mentioned could not have been the poet of the same name, because, as we are informed, he died by his own hand. The death of the poet Gallus is alluded to by Ovid, Amores, B. iii. El. 9, l. 64.—B. A similar fate is said, by Tertullian, to have overtaken Speusippus, the Platonic philosopher. The same was also said by some of the poet Pindar.

[31] Val. Maximus, B. ix. c. 12, gives the same account of the death of Gallus and Haterius.—B.

[32] Which was usually worn by the Romans at their entertainments.

[33] Considering *some* of the above cases, Pliny must have had a curious notion of a happy death. Ovid would have agreed with him in one respect; for in his amatory poems, he expresses a wish that he may die of a surfeit of sensual enjoyment.

on the other hand, there are innumerable cases also of unfortunate ends. L. Domitius,[34] a member of a most illustrious family, having been conquered at Massilia by Cæsar, and taken prisoner by him at Corfinium, being weary of life, took poison; but, immediately after, he used every possible exertion to prolong his life. We find it stated in our Annals, that Felix, a charioteer of the red party,[35] being placed on the funeral pile, some one of the number of his admirers threw himself upon the pile; a most silly piece of conduct. Lest, however, this circumstance might be attributed to the great excellence of the dead man in his art, and so redound to his glory, the other parties all declared that he had been overpowered by the strength of the perfumes. Not long ago, M. Lepidus, a man of very noble birth, who died, as I have stated above,[36] of chagrin caused by his divorce, was hurled from the funeral pile by the violence of the flames, and in consequence of the heat, could not be replaced upon it; in consequence of which, his naked body was burnt with some other pieces of brushwood, in the vicinity of the pile.

CHAP. 55. (54.)—BURIAL.

The burning of the body after death, among the Romans, is not a very ancient usage; for formerly, they interred it.[37] After it had been ascertained, however, in the foreign wars, that bodies which had been buried were sometimes disinterred, the custom of burning them was adopted. Many families, how-

[34] The great-grandfather of the Emperor Nero. We have a reference to his death by Seneca, De Benef. B. iii. c. 24, and a more full account of it by Suetonius, Life of Nero, c. 2.—B.

[35] The charioteers at Rome were divided into four companies, or "factiones," each distinguished by a colour, representing the season of the year. These colours were green for the spring, red for the summer, azure for autumn, and white for the winter. Domitian afterwards increased them to six, adding the golden and the purple. The most ardent party spirit prevailed among them, and the interest in their success extended to all classes and both sexes.

[36] In the thirty-sixth Chapter of this Book.—B.

[37] It would appear, from Dalechamps and Hardouin, that this statement respecting the period when the custom of burning the body after death was first adopted by the Romans, is incorrect, Lemaire, vol. iii. p. 219. There is much uncertainty as to its origin, and the source from which they borrowed it. We learn from Macrobius, that the practice was discontinued in his time, *i. e.* in the fourth century after Christ.—B.

ever, still observed the ancient rites, as, for example, the Cornelian family, no member of which had his body burnt before Sylla, the Dictator; who directed this to be done, because, having previously disinterred the dead body of Caius Marius, he was afraid that others might retaliate on his own.[38] The term "sepultus"[39] applies to any mode whatever of disposing of the dead body; while, on the other hand, the word "humatus" is applicable solely when it is deposited in the earth.

CHAP. 56. (55.)—THE MANES, OR DEPARTED SPIRITS OF THE SOUL.

After burial come the different quiddities as to the existence of the Manes. All men, after their last day,[40] return to what they were before the first; and after death there is no more sensation left in the body or in the soul than there was before birth. But this same vanity of ours extends even to the future, and lyingly fashions to itself an existence even in the very moments which belong to death itself: at one time it has conferred upon us the immortality of the soul; at another transmigration; and at another it has given sensation to the shades below, and paid divine honours to the departed spirit, thus making a kind of deity of him who has but just ceased to be a man. As if, indeed, the mode of breathing with man was in any way different from that of other animals, and as if there were not many other animals to be found whose life is longer than that of man, and yet for whom no one ever presaged anything of a like immortality. For what is the actual substance of the soul, when taken by itself? Of what material does it consist? Where is the seat of its thoughts? How is it to

[38] We have the same remarks, respecting the antiquity of the custom of interring the body, the continued adoption of it by the Cornelian family, and the supposed notion of Sylla, in ordering his own body to be burnt, in Cicero, De Leg. B. ii. c. 22, from whom it is probable Pliny may have borrowed them.—B.

[39] We have no English term that will preserve the distinction which Pliny makes between the two modes of disposing of the body after death. —B.

[40] He views the state after death in the same light as Democritus and Epicurus, utterly denying the immortality of the soul; though it cannot be said that he looks upon life in the same cheerful, laissez-faire manner in which it was regarded by the latter of these philosophers.

see, or hear, or how to touch? And then, of what use is it, or what can it avail, if it has not these faculties? Where, too, is its residence, and what vast multitudes of these souls and spirits[41] must there be after the lapse of so many ages? But all these are the mere figments of childish ravings, and of that mortality which is so anxious never to cease to exist. It is a similar piece of vanity, too, to preserve the dead bodies of men; just like the promise that he shall come to life again, which was made by Democritus;[42] who, however, never has come to life again himself. Out upon it! What downright madness is it to suppose that life is to recommence after death! or indeed, what repose are we ever to enjoy when we have been once born, if the soul is to retain its consciousness in heaven, and the shades of the dead in the infernal regions? This pleasing delusion, and this credulity, quite cancel that chief good of human nature, death, and, as it were, double the misery of him who is about to die, by anxiety as to what is to happen to him after it. And, indeed, if life really is a good, to whom can it be so to have once lived?

How much more easy, then, and how much more devoid of all doubts, is it for each of us to put his trust in himself, and guided by our knowledge of what our state has been before birth, to assume that that after death will be the same.

CHAP. 57. (56.)—THE INVENTORS OF VARIOUS THINGS.

Before we quit the consideration of the nature of man, it appears only proper to point out those persons who have been the authors of different inventions. Father Liber[43] was the first to establish the practice of buying and selling; he also invented

[41] Hardouin remarks, that the ancients made a distinction between the souls of the dead, and their spirits or shades, "umbræ." The former were supposed to remain on the earth, while the latter were removed either to Elysium or to Tartarus, according to the character or actions of the deceased.—B.

[42] According to Varro, Democritus directs, that the body shall not be burnt after death, but preserved in honey; on which Varro remarks, how greatly such a practice would tend to raise the price of that article.—B.

[43] It has been conjectured, that Bacchus derived his name from the Greek word Βάσκω, on account of his numerous journies into different parts of the world; it was during these that he conveyed to the various nations which he visited the arts of civilized life.—B.

the diadem, the emblem of royalty, and the triumphal procession. Ceres[44] introduced corn, the acorn having been previously used by man for food; it was she, also, who introduced into Attica the art of grinding corn[45] and of making bread, and other similar arts into Sicily; and it was from these circumstances that she came to be regarded as a divinity. She was the first also to establish laws;[46] though, according to some, it was Rhadamanthus. I have always been of opinion, that letters were of Assyrian origin, but other writers, Gellius,[47] for instance, suppose that they were invented in Egypt by Mercury: others, again, will have it that they were discovered by the Syrians; and that Cadmus brought from Phœnicia sixteen letters into Greece. To these, Palamedes, it is said, at the time of the Trojan war, added these four, Θ, Ξ, Φ, and X. Simonides,[48] the lyric poet, afterwards added a like number, Z, H, Ψ, and Ω; the sounds denoted by all of which are now received into our alphabet.[49]

[44] We have a long discussion by Poinsinet, vol. iii. pp. 234, 235, on the derivation of the name of Ceres, in which he endeavours to explain the various attributes that were ascribed to her. The character in which she was generally regarded by the writers of antiquity, was the one here given to her by Pliny; in proof of which we may refer, among other authorities, to Virgil, Geor. B. i. l. 147, and to Ovid, Metam. B. iii. l. 341.—B.

[45] The earliest method of reducing corn to the state proper for the food of man, was by pounding it in a mortar; afterwards, when it was ground between stones, they were moved by the hand, as is still the practice in many parts of the East. It was not until a comparatively late period that water was employed as the moving power for mills.—B.

[46] It has been supposed by some commentators, that the character of legislator was bestowed upon Ceres, in consequence of the name by which she was designated, in the ancient northern languages, being incorrectly transferred to the Greek. Others have thought that it might be referred to the connection which may be supposed to exist between an advance in the arts of life generally and an improvement of the laws.—B.

[47] We do not find the circumstance here referred to in the "Noctes Atticæ" of Aulus Gellius.—B.

[48] It would appear that there were two individuals of this name, who were confounded with each other; Simonides, the celebrated poet, lived as late as the fifth century before Christ, so that it has been thought improbable that the Greek language could have existed without the four letters here mentioned, until so recent a period.—B.

[49] The account of the original introduction of the alphabet into Greece, here given, is the one generally adopted in his time. Most readers will be aware, that the actual invention of letters, the share which the Egyptians and the Phœnicians had in it, the identification of Cadmus, and still more of Mercury, with any of the heroes or legislators of antiquity, of

Aristotle, on the other hand, is rather of opinion, that there were originally eighteen letters,[50] Α Β Γ Δ Ε Ζ Ι Κ Λ Μ Ν Ο Π Ρ Σ Τ Υ Φ, and that two, Θ namely and Χ, were introduced by Epicharmus,[51] and not by Palamedes. Aristides says, that a certain person of the name of Menos, in Egypt, invented letters fifteen years before the reign of Phoroneus,[52] the most ancient of all the kings of Greece, and this he attempts to prove by the monuments there. On the other hand, Epigenes,[53] a writer of very great authority, informs us that the Babylonians have a series of observations on the stars, for a period of seven hundred and twenty thousand years, inscribed on baked bricks. Berosus and Critodemus, who make the period the shortest, give it as four hundred and ninety thousand years.[54] From

whom we have any correct historical data, and the connection which the Greek alphabet had with those of other nations, are among the most curious questions of literary discussion, and are still far from being resolved with any degree of certainty.—B.

[50] It seems to have been the general opinion, that the Greek language had, originally, sixteen or eighteen letters, the source of which was very uncertain, and of high antiquity; and to these, additional letters were, from time to time, appended by different individuals. Upon the whole, the claim of the Egyptians to the invention of letters, seems to rest upon, at least, a very plausible foundation.—B.

[51] Epicharmus was born in the fifth century B.C., in the island of Cos, but removed, probably at an early age, to Sicily, where he passed a considerable portion of his life. His original profession was that of a physician, but he appears to have devoted his attention principally to general science and literature, and is more especially remarkable as the inventor of regular comedy. A few fragments only of his dramas remain, but the titles of no less than forty are preserved. From a line in the Prologue to the Menæchmi of Plautus, where it is said that the plot of the play, "non Atticissat verum Siculicissat" "is not Attic, but Sicilian;" it has been conjectured, that Plautus took the plot of the piece from Epicharmus.

[52] Phoroneus was the son of Inachus, and the second king of Argos; he began to reign about 1807 B.C.—B.

[53] Epigenes has already been referred to in the fifty-fourth chapter of this Book.—B.

[54] There has been much discussion respecting the interpretation of this passage. In the first place, the numbers in the text have extended from 720 and 490 to as many thousands, by the addition of the letter M., against the authority, however, of some MSS. In the next place, in order to curtail the enormous periods thus formed, the years have been supposed to be only lunar, or even diurnal periods. The opinion of Hardouin and Marcus is perhaps the better founded, who reject the proposed alteration, and consider these numbers to indicate, according to their natural signification, periods of years. The principal consideration that

this statement, it would appear that letters have been in use from all eternity. The Pelasgi were the first to introduce them into Latium.

The brothers Euryalus and Hyperbius[55] were the first who constructed brick-kilns and houses at Athens; before which, caves in the ground served for houses. Gellius[56] is inclined to think that Toxius, the son of Cælus, was the first inventor of mortar, it having been suggested to him by the nest of the swallow. Cecrops[57] gave to a town the name of Cecropia, after himself; this is now the citadel of Athens. Some persons will have it, that Argos had been founded before this period by King Phoroneus; others, again, that Sicyon had been previously built; while the Egyptians declare that their own city, Diospolis, had been in existence long before them. Cinyra,[58] the son of Agriopas,[59] invented tiles and discovered

has been urged in favour of the alteration of the text is derived from two passages in Cicero's Treatise de Divin. B. i. c. 19, and B. ii. c. 46, where he refers to the very long periods which the Babylonians employed in their calculations, but which he justly regards as entirely without foundation, and even ridiculous. Pliny, however, professes to follow the opinion of Epigenes whom he styles "gravis auctor," and who, we may premise, would reject these improbable tales.—B. The reading, 720 *thousands*, is the one adopted by Sillig.

[55] Pausanias, in his "Attica," calls the two brothers Agrolas and Hyperbius. Some commentators have supposed, that these names, as well as Doxius and Cælus, mentioned below, are merely symbolical, and that the personages are fictitious.—B.

[56] The Gellius here mentioned had the prænomen of Cneius; he is not to be confounded with the more noted Aulus Gellius, by whom he is quoted in the Noct. Att. B. xiii. c. 29.—B.

[57] There is a number of ancient legends attached to the name of Cecrops, yet we have but little authentic information respecting him. What appears to be the best established is, that he was born in the city of Sais, in Egypt, and that, about 1556 B.C., he conducted a colony to Attica, where he built a fortress, on the Acropolis of Athens, and that his descendants continued, for some generations, to be kings of Attica.—B.

[58] If this is the Cinyra previously mentioned in c. 49, he is more generally represented as the son of Apollo, or of Paphos, a priest of the Paphian Aphrodite or Venus. The true reading, however, is uncertain.

[59] Hardouin informs us, that in all the MSS. which he has consulted, this person is named Agricola, while in the printed editions of Pliny he is styled Agriopa, or Agriopas. Poinsinet, vol. iii. pp. 250, 251, endeavours to explain this, by supposing, that the word "Agricola" was the one employed by Pliny, but was used by him as a generic, not as an appellative term. Some of the earlier editors, however, conceiving that no agricultural operations could be carried on, before the invention of the

copper-mines,[60] both of them in the island of Cyprus; he also invented the tongs, the hammer, the lever, and the anvil. Wells were invented by Danaus,[61] who came from Egypt into that part of Greece which had been previously known as Argos Dipsion.

The first stone-quarries were opened by Cadmus at Thebes, or else, according to Theophrastus, in Phœnicia. Walls were first built by Thrason;[62] according to Aristotle, towers were first erected by the Cyclopes,[63] but according to Theophrastus, by the Tirynthii. The Egyptians invented weaving;[64] the

necessary implements, had changed the name into Agriopa, derived from two Greek words, signifying "a man in the savage state, who is only capable of uttering inarticulate sounds." This method of solving the difficulty will probably appear fanciful and too refined, but it is the only one which has been proposed.—B.

[60] The copper-mines of Temesa, supposed to have been in Cyprus, are mentioned by Homer. There was another place of that name in Bruttium, and another in India, both equally famous for their copper.

[61] Danaus is said to have migrated from Egypt into Greece about 1485. B.C. He may have introduced wells into Greece, but they had, long before his time, been employed in Egypt and in other countries. The term "Dipsion," "thirsting," which it appears had been applied to the district of Argos, may seem to render it probable, that, before the arrival of Danaus, the inhabitants had not adopted any artificial means of supplying themselves with water.—B. But this country, we are told, is naturally well supplied with water.

[62] Nothing is known respecting this individual; it does not appear that he is mentioned by any other of the ancients.—B.

[63] There is so much fable mixed up with the account of the Cyclopes, that it is difficult to ascertain their real history. It seems probable, that there was a people of high antiquity, who were particularly skilful in the erection of stone edifices of various kinds, and more especially of those which served for the defence of cities. The remains of walls and other structures, which have obtained the name of Cyclopian, are found in various parts of Greece, Italy, and Sicily, and may be regarded as among the oldest works of man in existence, although they are probably of less antiquity than those of Egypt and of some parts of Asia.—B.

[64] We have sufficient evidence of the early period at which the art of weaving was practised in Egypt, from the figures to be found on their monuments, and from the specimens of their manufactures, some of very delicate texture, which have been found in the most ancient of their tombs. It was doubted, at one time, whether these fine stuffs were formed from the fibres of flax or of cotton, or, in other words, whether they were cambric or muslin; but it is now generally admitted that they are made of flax. We have frequent mention of the products of the loom in the Pentateuch; we may select the 13th chapter of Leviticus, where linen and woollen stuffs are especially mentioned, and distinguished from each other.—B.

Lydians of Sardis the art of dyeing wool.[65] Closter, the son of Arachne, invented the spindle for spinning wool;[66] Arachne herself, linen cloth and nets;[67] Nicias of Megara, the art of fulling cloth;[68] and Tychius, the Bœotian, the art of making shoes.[69] The Egyptians will have it that the medical art was first discovered among them, while others attribute it to Arabus, the son of Babylonis and Apollo; botany and pharmacy are ascribed to Chiron, the son of Saturn and Philyra.[70]

Aristotle supposes that Scythes, the Lydian, was the first to fuse and temper copper, while Theophrastus ascribes the art to Delas, the Phrygian.[71] Some persons ascribe the working

[65] It is very difficult, probably impossible, in the present day, to determine to which of the nations of antiquity we are indebted for the invention of the art of dyeing. We have notices of coloured stuffs in various parts of the Pentateuch, and there is reason to suppose, that the art was practised, at a very early period, by the Egyptians, the Phœnicians, and the Indians. They had even arrived at the knowledge of partial dyeing, or what is technically termed "printing," as applied to cotton or linen.—B.

[66] According to Justin, B. ii. c. 6, the Athenians introduced the use of wool among their countrymen; but it has been supposed that they learned it from the Egyptians.—B.

[67] Arachne is said to have been a native of Hypæpæ, near Colophon, in Asia Minor, and has been celebrated for her skill in embroidery by Ovid, Metam. B. vi. As we have sufficient evidence that linen was manufactured by the Egyptians at a very early period, we may presume that this account of Arachne is either fabulous, or that, in some way or other, she was instrumental in the introduction of linen into Greece.—B.

[68] Nothing is known of this individual, nor have we any further information respecting the discovery ascribed to him.—B.

[69] Homer, Il. B. vii. l. 221, and Ovid, Fasti, B. iii. l. 824, speak of Tychius, as particularly skilful in making shoes, and other articles of leather.—B.

[70] It is difficult to determine, how far we are to regard the names here mentioned as belonging to real or only to fictitious personages, nor is it easy for us to ascertain what should be regarded as the actual invention of medicine. A certain kind of medical, or rather surgical practice, must have existed in the rudest state of society and in the earliest ages, which was improved and refined by the gradual experience and increased civilization of each successive generation.—B.

[71] In this, as in so many others of the arts, the original invention has been given to the Egyptians, while the introduction of it into Greece is ascribed to Cadmus. The word *æs*, which is generally translated "brass," as well as the Greek word χαλκὸς, was applied by the ancients, either to copper, or what is properly bronze, *i. e.* a mixture of copper and tin. Brass, the compound of copper and zinc, does not appear to have been known to them. With respect to the claim of the Scythians to the discovery of the use of copper, it has been justly remarked, that it is natural to suppose it

of copper to the Chalybes, others to the Cyclopes. Hesiod says, that iron was discovered in Crete, by the Idæan Dactyli.[72] Erichthonius, the Athenian, or, as some people say, Æacus, discovered silver.[73] Gold mines, and the mode of fusing that metal, were discovered by Cadmus, the Phœnician, at the mountain of Pangæus,[74] or, according to other accounts, by Thoas or Eaclis, in Panchaia;[75] or else by Sol, the son of Oceanus, whom Gellius mentions as having been the first who employed honey in medicine. Midacritus[76] was the first who brought tin from the island called Cassiteris.[77] The Cyclopes invented the art of working iron.[78] Chorœbus, the Athenian, was the first who made earthen vessels;[79] but Anacharsis, the

to have been first known in those countries, where the ore of the metal is found in large quantities, which is the case in the region that was anciently named Scythia.—B.

[72] According to Pausanias, the art of forging iron was discovered by Glaucus of Chios. Strabo ascribes it to the Idæan Dactyli, and the art of manufacturing utensils of bronze and iron to the Telchines; the former were inhabitants of Crete, the latter of Rhodes.—B.

[73] According to Hyginus, silver was first discovered in Scythia by Indus, and introduced into Attica by Erichthonius. Æacus is said by Cassiodorus to have been the discoverer of gold.—B.

[74] Pangæus is generally described as a mountain on the confines of Macedonia and Thrace; but Marcus says that it was a mountain of Abyssinia, near the source of the Nile, and he adduces various passages from the ancients to prove that the Egyptians had an extensive traffic there in gold at a very early period; Ajasson, vol. vi. pp. 191, 192.—B.

[75] Thoas was the king of the Tauric Chersonnesus, and Panchaia was a district of Arabia Felix; it does not appear what connection Thoas could have with Panchaia.—B.

[76] We have no account of any individual bearing this name, and it has been proposed by Hardouin to substitute for it "Midas Phrygius," who is said, both by Hyginus and by Cassiodorus, to have been the discoverer of lead.—B.

[77] From the accounts of Pliny, B. iv. c. 36, as well as of Strabo, and the other ancient geographers, it appears, that he here alludes to the Scilly Isles, including, probably, the western extremity of Cornwall. We are informed by Herodotus, B. iii. c. 115, that tin was brought from them, and they were hence named the "tin islands," from the Greek word for tin, *κασσίτερος*.—B.

[78] On this subject we may refer to Note 72.—B.

[79] Pliny, in B. xxxv. c. 45, informs us, that Chorœbus invented the art of making pottery, and that it was first exercised, as a trade, by Chalcosthenes. He says, that a certain district of Athens obtained the name of "Ceramicos," from his manufactory of earthen-ware, derived from *κέραμος*, "potter's clay."—B.

Scythian, or, according to others, Hyperbius, the Corinthian, first invented the potter's wheel. Dædalus[80] was the first person who worked in wood; it was he who invented the saw, the axe, the plummet, the gimlet, glue, and isinglass;[81] the square, the level, the turner's lathe, and the key, were invented by Theodorus, of Samos.[82] Measures and weights were invented by Phidon, of Argos,[83] or, according to Gellius, by Palamedes. Pyrodes, the son of Cilix, was the first to strike fire from the flint, and Prometheus taught us how to preserve it, in the stalk of giant-fennel.[84]

The Phrygians first taught us the use of the chariot with four wheels;[85] the Carthaginians the arts of merchandize,[86] and Eumolpus, the Athenian,[87] the cultivation of the vine, and of trees in general. Staphylus, the son of Silenus,[88] was the first to mix water with wine; olive-oil and the oil-press, as also honey, we owe to Aristæus, the Athenian;[89] the use of oxen and the

[80] The inventions here ascribed to Dædalus, are, by many of the ancients, given to his nephew; see Isidorus, Hyginus, Diodorus Siculus, and Ovid, Metam. B. viii. l. 234, *et seq.*—B.

[81] "Ichthyocolla," perhaps more properly, "Fish-glue."

[82] Pausanias ascribes also to Theodorus the invention of forging iron and copper. According to Vitruvius, the square was invented by Pythagoras.—B.

[83] The same statement is made by Strabo, and other writers of antiquity, and is confirmed by the Arundelian Marbles.—B.

[84] See B. xiii. c. 42.

[85] Marcus informs us, that, according to the Arundelian Marbles, Erichthonius, the fourth king of Athens, was the inventor of chariots.—B. See p. 229.

[86] Hardouin remarks, that Pliny, in the beginning of this Chapter, ascribes the invention of commerce to Bacchus; we may suppose, that the commerce there referred to, was the conveyance of goods by land, while that of the Carthaginians was traffic by sea.—B.

[87] Eumolpus was a native of Thrace; but being expelled from his native country, he invaded Attica, and, after various contests with Erichthonius, obtained the office of high-priest of Ceres, which was continued to his descendants.—B.

[88] We learn from the writings of Moses, that the planting of the vine, and the conversion of the juice of the grape into wine, was practised by Noah immediately after the Flood. The mixing of water with wine would seem to be a very obvious and natural mode of procuring a pleasant and refreshing beverage.—B.

[89] From the writings of Moses, we learn that the use of oil and of honey was known to the inhabitants of Palestine and Egypt, at a very early period.—B.

plough to Buzyges, the Athenian,[90] or, according to other accounts, to Triptolemus.[91]

The Egyptians were the first who established a monarchical government, and the Athenians, after the time of Theseus, a democracy. Phalaris,[92] of Agrigentum, was the first tyrant[93] that existed; the Lacedæmonians were the introducers of slavery;[94] and the first capital punishment inflicted was ordered by the Areiopagus.[95] The first battles were fought by the Africans against the Egyptians, with clubs, which they are in the habit of calling phalangæ. Prœtus and Acrisius[96] were the first to use shields, in their contests with each other; or, as some say, Chalcus, the son of Athamas. Midias, the Messenian, invented the coat of mail, and the Lacedæmonians the helmet, the sword, and the spear.[97] Greaves and crests were first used by the Carians; Scythes, the son of Jupiter, it is said, invented the bow and arrows, though some say that arrows were invented by Perses, the son of Perseus.[98] Lances were invented by the Ætolians; the javelin, with the

[90] "Buzyges" is a Greek term, signifying "one who yokes oxen;" according to Hardouin, the real name of the person here referred to was Epimenides.—B.

[91] For an account of Triptolemus, the reader may consult Hyginus, and Pausanias, B. vii. Achaica.—B. Also the Fasti of Ovid, B. iv. l. 507, *et seq.*

[92] Phalaris is supposed to have been contemporary with Servius Tullius, who reigned from 577 to 533 B.C.—B.

[93] Meaning a citizen who obtained the sovereignty by violence and usurpation.

[94] This is supposed to have taken place 1000 years before Christ, when the Lacedæmonians conquered the Helots. But Moses had given the Jews a code of laws, respecting the treatment of slaves, between 400 and 500 years before that event, and we have various intimations of the existence of slavery, in his writings, long before his time. It appears, indeed, that in the different countries of the East, and in Africa, slavery has existed from time immemorial.—B.

[95] This is confirmed by Ælian, Var. Hist. B. iii. c. 38.—B.

[96] According to the same fabulous account of the early Grecian history, they were twin brothers, kings of the Argives; after much contention, Acrisius succeeded in expelling Prœtus from Argos; they are said to have lived 1400 years B.C. Athamas was a king of Thebes, and the contemporary of Acrisius.—B.

[97] According to Hardouin, the Lacedæmonians had the helmet, the sword, and the spear, of a peculiar form, different from that used by the other natives of Greece.—B.

[98] This account of the invention of the bow and arrow seems to have been derived from the high character which the Scythians and Persians had acquired for their dexterity in the use of those weapons.—B.

thong[99] attached, by Ætolus,[1] the son of Mars; the spear of the light infantry[2] by Tyrrhenus; the dart[3] by Penthesilea, the Amazon; the axe by Pisæus; the hunting-spear, and the scorpion to hurl missiles, by the Cretans;[4] the catapulta, the balista,[5] and the sling, by the Syrophœnicians.[6] Pisæus, the Tyrrhenian, was the first to invent the brazen trumpet,[7] and Artemon, of Clazomenæ, the use of the testudo.[8] The batter-

[99] The "amentum" was a leather thong tied to the middle of the javelin, to assist in throwing it, though it is unknown how it added to the effect. It has been suggested that it was by imparting rotation, and consequent steadiness.

[1] Ætolus was said to have been the son of Endymion, of Elis, who, having accidentally killed one of his countrymen, left his native place, and settled in the part of Greece named after him, Ætolia.—B.

[2] See B. xxviii. c. 6. This was the Roman "veru," or "verutum," so called from its resemblance to a spit. Its shaft was three feet and a half long, and its point five inches. The "Velites" did not form part of the Roman legion, but fought in scattered parties wherever they were required.

[3] The "pilum" was short and thick; its shaft, often made of cornel, was partly square, and five feet and a half long. The head was nine inches long. It was used either to throw or thrust with, and, in spite of what Pliny says, was peculiar to the Romans.

[4] Julius Firmicus ascribes the invention of the apparatus used in hunting to the Cretans; and Gratius, Cyneg. l. 108, that of the hunting spear, with its iron spike, to Dercylus, of Amyclæ.—B.

[5] Vitruvius informs us, that the catapulta and the balista were instruments formed upon the same principle, the former being adapted for the discharge of arrows, and the latter, masses of stone. Cæsar, however, in his account of the siege of Massilia, Bell. Civ. B. ii. c. 8, speaks of stones being thrown by the catapulta. Ælian, Hist. Var. B. vi. c. 12, says, that it was invented by Dionysius, the first king of Syracuse.—B.

[6] Strabo ascribes the invention of the sling to the Ætolians; he informs us, that the inhabitants of the Balearic Isles, so famous for their dexterity in the use of this instrument, originally obtained it from the Phrygians.—B.

[7] According to Hyginus, Tyrrhenus, the son of Hercules, invented the trumpet; Clemens, of Alexandria, and Athenæus, ascribe the invention to the Tyrrhenians.—B. Virgil speaks, B. viii. l. 526, of the "clangor of the Tyrrhenian trumpet."

[8] The "tortoise." He probably means a military machine, moved on wheels and roofed over, used in besieging cities, and under which the soldiers worked in undermining the walls. It was usually covered with raw hides or other materials, which could not easily be set on fire. The same name was also applied to the covering formed by a compact body of soldiers, who placed their shields over their heads, and linked them together, to secure themselves against the darts of the enemy. The latter kind of "testudo" was sometimes formed, by way of an exercise, in the games of the Circus.

ing-horse, for the destruction of walls, which is at the present day styled the "ram," was invented by Epeus, at Troy.[9] Bellerophon was the first who mounted the horse;[10] bridles and saddles for the horse were invented by Pelethronius.[11] The Thessalians, who are called Centauri, and who dwell along Mount Pelion, were the first to fight on horse-back. The people of Phrygia were the first who used chariots with two horses; Erichthonius first used four.[12] Palamedes, during the Trojan war, was the first who marshalled an army, and invented watchwords,[13] signals, and the use of sentinels. Sinon, at the same period, invented the art of correspondence by signals. Lycaon was the first to think of making a truce, and Theseus a treaty of alliance.

The art of divination by means of birds[14] we owe to Car,

[9] This has been supposed to have been the real origin of the Trojan horse, on which Virgil has built one of his most interesting episodes; the horse, as described by Virgil, was, however, in every respect, different from the battering ram.—B.

[10] In consequence of some false charges brought against him, Bellerophon was sent to combat with a monster called the Chimæra, in the expectation that he would perish in the attempt; but Minerva, pitying his situation, provided him with a winged horse, named Pegasus, by means of which he accomplished his perilous task in safety.—B.

[11] Pelethronius is said to have been a king of the Lapithæ, a people of Thessaly, who were celebrated for their skill in the management of the horse.—B.

[12] According to Cicero, De Nat. Deor. B. iii. c. 23, Minerva was the first who used a chariot with four horses. Hardouin supposes that the Erichthonius here mentioned was not the king of Athens, but the son of Dardanus, the king of Troas; he does not state the ground of his opinion, and Ælian, Hist. Var. B. iii. c. 38, expressly speaks of him as an Athenian. Virgil, Geor. B. iii. ll. 113, 114, speaks of Erichthonius as the inventor of the chariot with four horses; he is supposed to have lived about 1450 B.C. As Hardouin justly remarks, we have an account, in the writings of Moses, of chariots being used by the Egyptians long before this period. It is not, however, stated what was the number of horses used for these chariots.—B.

[13] "Tesseræ," in the original, which is also the name of the dice used in various games. But the connection in which the word is here placed makes it more probable that it refers to some military operation; Virgil employs it in this sense, Æneid, B. vii. l. 637, as also Livy, B. vii. c. 35. There is, however, a tradition that Palamedes invented the games in which dice are used, during the siege of Troy.—B.

[14] The words are "auguria ex avibus," while the art which is said to have been taught by Tiresias, is termed "extispicio avium." The first of these consists in foretelling future events, by observing the flight, the

from whom Caria derives its name; Orpheus extended it to other animals. Delphus taught us the art of divining by the inspection of entrails; Amphiaraüs[15] divination by fire; and Tiresias, the Theban, presages from the entrails of birds. We owe to Amphictyon[16] the interpretation of portents and of dreams, and to Atlas,[17] the son of Libya, the art of astrology, or else, according to other accounts, to the Egyptians or the Assyrians. Anaximander,[18] the Milesian, invented the astronomical sphere; and Æolus, the son of Hellen, gave us the theory of the winds.

Amphion was the inventor of music;[19] Pan, the son of Mercury, the music of the reed, and the flute with the single pipe; Midas, the Phrygian,[20] the transverse flute;[21] and Marsyas,

chirping, or the feeding of birds, the latter by the inspection of their entrails. But it appears that this distinction is not always observed; see Cicero, De Divin. B. i. c. 47. The observation of the auguries was committed to a body or college of priests, regarded as of the highest authority in the Roman state. The "Haruspices," whose office it was to inspect the entrails of sacrificed animals, and from their appearance to foretell future events, were considered as an inferior order.—B.

[15] Amphiaraüs was reputed to be the son of Apollo, and was famous for his knowledge of futurity; he was one of the Argonauts, and joined in the expedition of the Epigoni against Thebes, in which he perished. Divine honours were paid to him after his death, and a temple erected to his memory, which was resorted to as an oracle.—B.

[16] Amphictyon established the celebrated council named after him, and which consisted of delegates from the principal cities of Greece, who assembled at stated periods to decide upon all public questions. He is supposed to have lived about 1500 B.C.—B.

[17] It is very difficult, perhaps impossible, to separate the actual history of Atlas from the mythological and fabulous tales mixed up with it. We may, however, conclude that he was a king of Libya, or of some part of the north of Africa; that he was an observer of the heavenly bodies, and one of the first who gave any connected account of them. Under the term "astrology," Pliny probably intended to comprehend both the supposed science, now designated by that name, and likewise astronomy, or the physical laws of the heavenly bodies.—B.

[18] Pliny has previously stated, B. ii. c. 6, that the sphere was invented by Atlas, and that Anaximander discovered the obliquity of the ecliptic, by which he is said "to have opened the doors of knowledge."—B.

[19] The simplest and most common musical instrument used by the Greeks, was the "tibia," or pipe.—B.

[20] According to Hardouin, the Phrygians invented the pipes employed by hired mourners at funerals, or, more probably, were the first to adopt the use of the pipes at that ceremony.—B.

[21] Which was played on the side, like the German flute of the present day.

of the same country, the double-pipe.[22] Amphion invented the Lydian measures in music; Thamyris the Thracian, the Dorian, and Marsyas the Phrygian, the Phrygian style.[23] Amphion, or, according to some accounts, Orpheus, and according to others, Linus, invented the lyre.[24] Terpander, adding three to the former four, increased the number of strings to seven; Simonides added an eighth, and Timotheus a ninth.[25] Thamyris was the first who played on the lyre, without the accompaniment of the voice; and Amphion, or, as some say, Linus, was the first who accompanied it with the voice. Terpander was the first who composed songs expressly for the lyre; and Ardalus, the Trœzenian, was the first who taught us how to combine the voice with the music of the pipe.[26] The Curetes taught us the dance in armour,[27] and Pyrrhus, the Pyrrhic dance, both of them in Crete.

We are indebted to the Pythian oracle for the first heroic verse.[28] A very considerable question has arisen, as to what was the origin of poetry; it is well known to have existed before the Trojan war. Pherecydes of Scyros, in the time of King Cyrus, was the first to write in prose, and Cadmus, the Milesian, was the first historian.[29]

[22] It was not uncommon for two "tibiæ," or pipes, to be played upon by one performer at the same time, one being held in each hand.

[23] Apuleius, Flor. B. i. c. 4, characterizes the different kinds of music, termed "moduli" by Pliny, as follows: the Æolian, as simple, the Asiatic varied, the Lydian plaintive, the Phrygian solemn, and the Doric warlike.—B.

[24] According to the mythological traditions, Mercury, when a child, found the shell of a tortoise on the banks of the Nile, and made it into a lyre, by stretching three strings across; he presented it to Apollo, and he gave it to Orpheus, who added two strings to it; after the death of Orpheus, his lyre was placed among the stars, and forms the constellation still known by that name.—B.

[25] He was a native of Miletus, and contemporary with Philip, the father of Alexander the Great. The fact of Timotheus having accompanied Alexander in his expedition to Asia, which forms the basis of Dryden's immortal Ode, is not supported by any historical authority.—B.

[26] Pausanias (Corinth) informs us, that he was the son of Vulcan, and invented the tibia, but he does not mention his vocal powers.—B.

[27] According to Hardouin, the first of these, the "saltatio armata," or "armed dance," was performed on foot, and with wooden armour; the second, the Pyrrhic dance, was performed on horseback, and consisted in the dextrous management of the animals. Pyrrhus, from whom the dance received its name, was the son of Achilles.—B.

[28] The honour of the invention has been given to Phemonoë, a priestess of the oracle of Delphi.—B.

[29] Apuleius, Flor. B. ii. c. 15, says that Pherecydes was the first to dis-

Lycaon[30] first instituted gymnastic games, in Arcadia; Acastus funereal games,[31] at Iolcos;[32] and, after him, Theseus instituted them at the Isthmus.[33] Hercules first instituted the athletic contests at Olympia.[34] Pythus invented the game of ball.[35] Painting was invented in Egypt by Gyges, the Lydian,[36] or, according to Aristotle, in Greece, by Euchir, a

regard the fetters of verse, and to write in desultory language. Pliny, however, in B. v. c. 31, has ascribed the invention of prose to Cadmus. Hardouin endeavours to reconcile this inconsistency, by supposing that Cadmus was the first prose writer of history, and that Pherecydes first applied prose to philosophical subjects. But Cicero, De Orat. B. ii. c. 12, speaks of Pherecydes as a writer of simple annals.—B.

[30] There are several persons of this name among the kings and heroes of the semi-fabulous periods; but the one here mentioned is said to have been the son of Phoroneus, and to have lived about 1400 B.C. These games were celebrated in honour of Pan; the combatants were naked, and had the body anointed with oil; the Lupercalia of the Romans, in many respects, resembled the games of Lycaon. We are informed by Livy, B. i. c. 5, that the Lupercalia were introduced into Italy by Evander, the Arcadian.—B. Ovid, in the Fasti, B. i., states to the same effect.

[31] Iolcos was a city of Thessaly, from which place the Argonauts embarked on their expedition to Colchis; Acastus was one of them; the funereal games which he instituted were in honour of his father, Pelias.—B.

[32] See B. iv. c. 10.

[33] The Isthmian games were originally instituted by Sisyphus, king of Corinth; after having been interrupted for some time, they were re-established by Theseus, who celebrated them in honour of Neptune.—B.

[34] These were the celebrated Olympic games; Diodorus Siculus, B. iv. c. 3, Pausanias, and other ancient writers, as well as Pliny, ascribe their origin to Hercules; Pausanias, however, says, that some supposed them to have been instituted by Jupiter.—B.

[35] "Pila lusoria." There have been many conjectures respecting the person to whom this invention is attributed, as well as respecting the nature of the game itself; in either case it appears that we have nothing but mere conjecture to direct our opinion.—B. Among the Romans, the games with the "pila, or ball," were those played with the "pila trigonalis," so called, probably, from the players standing in a triangle: the "follis" was a large ball inflated, and used for football. "Paganica" was a similar ball, but harder, being stuffed with feathers, and used by rustics. "Harpastum" was a small ball, used by the Greeks, and was scrambled for on reaching the ground.

[36] The MSS. differ as to the name of the person to whom the invention of painting is ascribed; but, in those which are considered the most worthy of credit, he is called Gyges Ludius. Marcus endeavours to prove, that the term "Ludius" refers to the country of Lud or Ludim, to the south of Egypt; and he points out some analogies between the name Gyges, and some words which are found in ancient inscriptions, or which are still in use among the Nubians and Abyssinians. Pliny, B. XXXV. c. 5, attri-

kinsman[37] of Dædalus; according to Theophrastus, again, it was invented by Polygnotus, the Athenian.

Danaüs was the first who passed over in a ship from Egypt to Greece.[38] Before his time, they used to sail on rafts,[39] which had been invented by King Erythras,[40] to pass from one island to another in the Red Sea. There are some writers to be found, who are of opinion that they were first thought of by the Mysians and the Trojans, for the purpose of crossing the Hellespont into Thrace. Even at the present day, they are made in the British ocean, of wicker-work covered with hides;[41] on the Nile they are made of papyrus, rushes, and reeds.

We learn from Philostephanus, that Jason was the first person who sailed in a long vessel;[42] Hegesias says it was

butes the invention of painting to the Egyptians, and says, that "it was practised by them long before it was known in Greece."—B.

[37] The term Euchir, Εὔχειρ, which is literally "dextrous or handy," would rather seem to be a prefix to a name, than a proper name itself. With respect to Polygnotus, and the share which he had in the invention of painting, the reader may examine what Pliny says in a subsequent part of his work, B. xxxv. c. 35.—B.

[38] The vessel in which Danaüs came into Greece, may, probably, have been of a much superior construction, or much larger than those previously seen in that country; but it is generally supposed, that Cecrops, Cadmus, and the other Egyptian and Phœnician colonists, had come by sea to Greece, long before the arrival of Danaüs. In the ancient Egyptian monuments there are representations of different kinds of vessels of considerable size, which would imply a knowledge of the art of navigation at a very remote period. The same is proved by the traditionary annals of the Egyptians.—B.

[39] The word here used, "ratis," would appear to be applied to any species of slightly built vessel, of whatever form. The term *raft* is not altogether appropriate, but we have no English word which exactly corresponds to it.—B.

[40] According to the generally received account, Erythras migrated from Persia to Tyrrhina, an island in the Red Sea. See B. vi. c. 28 and 32.—B.

[41] It has been conjectured, that the ancient Britons borrowed the peculiar form of their vessels from the Phœnicians, who were known to have frequented the south-west coasts of our island. Small vessels, not unlike those here described by Pliny, were used very lately, by the fishermen in the Bristol channel.—B. They are still used by the Welsh fishermen, and are made of oil-cloth or leather stretched on a frame. They are called by the Welch *corwgle*, whence our word "coracle."

[42] By the term "longa navis," here used, Pliny probably designates a vessel which was propelled by a number of rowers, ranged side by side, in

Paralus, Ctesias,[43] Semiramis,[44] and Archemachus, Ægæon. According to Damastes,[45] the Erythræi[46] were the first to construct vessels with two banks of oars; according to Thucydides,[47] Aminocles, the Corinthian, first constructed them with three banks of oars; according to Aristotle, the Carthaginians, those with four banks; according to Mnesigiton, the people of Salamis, those with five banks;[48] and, according to Xenagoras, the Syracusans, those with six; those above six, as far as ten, Mnesigiton says were first constructed by Alexander the Great. From Philostephanus, we learn that Ptolemy Soter made them as high as twelve banks; Demetrius, the son of Antigonus, with fifteen; Ptolemy Philadelphus, with thirty; and Ptolemy Philopater, who was surnamed Tryphon, with forty.[49] Hippus, the Tyrian, was the first who invented merchant-ships; the Cyrenians, the pinnace; the Phœnicians, the passage-boat; the Rhodians, the skiff; and the Cyprians, the cutter.[50]

contradistinction to the small skiffs which were moved along, either by a sail or a single pair of oars, and were more of a rounded form.—B.

[43] Ctesias has already been referred to, in c. 2 of the present Book.—B.

[44] One of her most remarkable exploits was her expedition against India, of which we have an account in Diodorus Siculus, B. ii.; he says that she fitted out a fleet of between 2000 and 3000 vessels.—B.

[45] From the account of Damastes, given by Hardouin, he was a native of Sigæum, whose works appear to have been held in considerable estimation by the ancients.—B.

[46] There were at least three ancient cities of the name Erythræ, but the one most noted was situate on the coast of the Ægean Sea, opposite to the Isle of Chios.—B.

[47] The passage in Thucydides here referred to, is in B. i. c. 13.—B.

[48] There appears to be much uncertainty respecting the statements made in the concluding part of this paragraph, in consequence of the variation of the MSS.—B.

[49] The position of the rowers, in the vessels of the ancients, and, more especially, the mode in which the ranks, or "ordines," were disposed with respect to each other, has been a subject of much discussion. From the incidental remarks in the classical writers, and from the representations which still remain, particularly those on Trajan's Column, and on certain coins, it would appear that they were disposed in stages, one above the other, and provided with oars of different lengths, in proportion to their distance from the water. But, although we may conceive that this was the case with two or three rows, it is impossible that a greater number could have been disposed in this manner.—B.

[50] It is not easy to determine what was the construction and form of the four kinds of vessels here mentioned, which he designates respectively by the terms "lembus," "cymba," "celes," and "cercurus." The "lem-

We are indebted to the Phœnicians for the first observation of the stars in navigation; the Copæ invented the oar, and the Platæans gave it its broad blade.[51] Icarus was the person who invented sails,[52] and Dædalus the mast and yards; the Samians, or else Pericles, the Athenian, transports for horses,[53] and the Thracians, long covered vessels,[54]—before which time they used to fight only from the prow or the stern. Pisæus, the Tyrrhenian, added the beak to ships;[55] Eupalamus, the anchor; Anacharsis, that with two flukes; Pericles, the Athenian, grappling-irons, and hooks like hands;[56] and Tiphys,[57] the helm and rudder. Minos was the first who waged war by means of ships; Hyperbius, the son of Mars, the first who killed an animal; and Prometheus, the first who slew the ox.[58]

bus" is mentioned by Livy, B. xxiv. c. 40, as a vessel with two benches of oars, "biremis;" and in B. xl. c. 4, he describes it as a small vessel used for towing large ships. The "cymba" has been supposed to have been a still smaller vessel, answering to our idea of a common boat; the "celes," we may suppose, was named from "celer," being especially adapted for quick motion, and the "cercurus" from κερκὸς, "a tail," from its long narrow form, or from its having a tail-like appendage attached to it.—B.

[51] Hardouin conjectures, that the cities of Copæ and Plateæ derived their names, respectively, from the inventions here ascribed to them, κωπὴ and πλατῆ.—B.

[52] Pausanias ascribes this invention to Dædalus; Diodorus, B. v. c. 1, to Æolus, who gave his name to the Æolian islands.—B.

[53] "Hippagus."—B.

[54] "Tecta longa;" Cæsar, Bell. Civ. B. i. c. 56, says that the Massilians fitted out long ships, of which eleven were "tectæ."—B.

[55] Ships of war had their prows armed with brazen beaks, to which sharp spears were attached; these were used in their naval engagements as instruments of attack, and, when the vessels were captured, were considered the trophies of victory. The tribunal, in the Roman Forum, from which the orators harangued the people, obtained its name of "Rostra," from its being ornamented with the beaks of captured ships.—B.

[56] The "harpago" and the "manus ferrea" are mentioned by Cæsar, Bell. Civ. B. i. c. 57, and by Livy, B. xxx. c. 10; Quintus Curtius also speaks of them, but considers them as only different names for the same instrument, B. iv. c. 2, 12.—B.

[57] Tiphys was the pilot of the vessel of the Argonauts; he died before the expedition reached Colchis.—B.

[58] Hardouin remarks upon this passage, that Pliny probably means to speak of the persons who first killed oxen or other animals for what may be styled profane purposes; as they had long before this been employed for sacrifice.—B.

CHAP. 58. (57.)—THE THINGS ABOUT WHICH MANKIND FIRST OF ALL AGREED. THE ANCIENT LETTERS.

There was at the very earliest[59] period a tacit consent among all nations to adopt the letters now used by the Ionians.[60] (58.) That the ancient Greek letters were almost the same with the modern Latin,[61] is proved by the ancient Delphic inscription on copper, which is now in the Palatine library, having been dedicated by the emperors to Minerva; this inscription is as follows:

ΝΑΥΣΙΚΡΑΤΗΣ ΑΝΕΘΕΤΟ ΤΗΙ ΔΙΟΣ ΚΟΡΗΙ.

["Nausicrates offered this to the daughter of Zeus."][62]

CHAP. 59. (59.)—WHEN BARBERS WERE FIRST EMPLOYED.[63]

The next point upon which all nations appear to have agreed, was the employment of barbers.[64] The Romans, however, were more tardy in the adoption of their services. According to Varro, they were introduced into Italy from

[59] Herodotus, B. v. c. 59, says that the Phœnician letters were very similar to the Ionian; and we are informed by Hardouin, that Scaliger, in his Dissertation upon an ancient inscription on a column discovered in the Via Appia, and removed to the Farnese Gardens, has proved that the Ionians borrowed their letters from the Phœnicians.—B.

[60] Herodotus confirms this opinion by a reference to an ancient tripod at Thebes, written in what he terms Cadmæan letters, having a strong resemblance to those used by the Ionians.—B.

[61] Tacitus, Ann. B. ix. c. 14, says, "The Latin letters have the same form as the most ancient Greek ones."—B.

[62] There is scarcely a letter of this inscription which has not been controverted, and no two editions hardly agree.—B.

[63] Probably the earliest existing reference to the practice of shaving is in Genesis, xli. 14, where Joseph is said to have shaved and changed his raiment, when brought from prison into the presence of Pharaoh; in this case, we may presume that it was the head, and perhaps not the beard, which was shaven.—B.

[64] The ancients had two methods of arranging the beard; in one it was cut close to the skin, in the other it was trimmed by means of a comb, and left of a certain length. These two methods are alluded to by Plautus, Capt. ii. 2, 16:—B. "Now the old fellow is in the barber's shop; at this very instant is the other handling the razor—but whether to say that he is going to shave him close, or to trim him through the comb, I know not."

Sicily, in the year of Rome 454,[65] having been brought over by P. Titinius Mena: before which time the Romans did not cut the hair. The younger Africanus[66] was the first who adopted the custom of shaving every day. The late Emperor Augustus always made use of razors.[67]

CHAP. 60.—WHEN THE FIRST TIME-PIECES WERE MADE.

(60.) The third point of universal agreement was the division of time, a subject which afterwards appealed to the reasoning faculties. We have already stated, in the Second Book,[68] when and by whom this art was first invented in Greece; the same was also introduced at Rome, but at a later period. In the Twelve Tables, the rising and setting of the sun are the only things that are mentioned relative to time. Some years afterwards, the hour of midday was added, the summoner[69] of the consuls proclaiming it aloud, as soon as, from the senate-house, he caught sight of the sun between the Rostra and the Græcostasis;[70] he also proclaimed the last hour, when the

[65] Varro, De Re Rus. B. ii., states this fact in almost the same words. He remarks, in continuation, that the old statues prove that there were formerly no barbers, by the length of their beard and hair.—B.

[66] "Africanus sequens;" he was the son of Paulus Æmilius, the conqueror of Perseus, and the adopted son of Scipio Africanus. In consequence of his conquest of Carthage, he was named Africanus the Younger. His custom of shaving is alluded to by Aulus Gellius, B. iii. c. 4. From the remarks of these writers, we may conclude that the Romans were not generally in the habit of shaving until after the age of forty.—B.

[67] "Cultus." Suetonius gives a different account of the method in which Augustus managed his beard. After remarking upon his carelessness as to his personal appearance, he says, that Augustus sometimes cropped, "tonderet," and sometimes shaved, "raderet," his beard. Dion. Cassius mentions the period when Augustus began to shave, the consulship of L. Marcius Censorinus and C. Calvicius Sabinus, A.U.C. 714; he was then in his twenty-fourth year.—B.

[68] In B. ii. c. 78; where Pliny says, that the first clock was made at Lacedæmon, by Anaximander; he was the contemporary of Servius Tullius, who commenced his reign 577 B.C.—B.

[69] "Accensus;" he was one of the public servants of the magistrates, and was so called from his office of summoning the people to the public meetings (acciere).—B.

[70] See also B. xxxiii. c. 6. This was a place in Rome appropriated to the Greek ambassadors; it is mentioned by Cicero, in a letter to his brother, Quintus, B. ii. c. 1.—B. It stood on the right side of the Comitium, being allotted to the Greeks from the allied states, for the purpose of hearing the debates in the comitia curiata.

sun had gone down from the Mænian column[71] to the prison. This, however, could only be done in clear weather, but it was continued until the first Punic war. The first sun-dial is said to have been erected among the Romans twelve years before the war with Pyrrhus, by L. Papirius Cursor,[72] at the temple of Quirinus,[73] on which occasion he dedicated it in pursuance of a vow which had been made by his father. This is the account given by Fabius Vestalis; but he makes no mention of either the construction of the dial or the artist, nor does he inform us from what place it was brought, or in whose works he found this statement made.

M. Varro[74] says that the first sun-dial, erected for the use of the public, was fixed upon a column near the Rostra, in the time of the first Punic war, by the consul M. Valerius Messala, and that it was brought from the capture of Catina, in Sicily: this being thirty years after the date assigned to the dial of Papirius, and the year of Rome 491. The lines in this dial did not exactly agree with the hours;[75] it served, however, as the regulator of the Roman time ninety-nine years, until Q. Marcius Philippus, who was censor with L. Paulus, placed one near it, which was more carefully arranged: an act which was most gratefully acknowledged, as one of the very best of his censorship. The hours, however, still remained a matter of uncertainty, whenever the weather

[71] This column is supposed to have stood near the end of the Forum, on the Capitoline Hill. It was C. Mænius (in whose honour it was erected) who defeated the Antiates, and adorned the Forum with the "rostra," or beaks of their ships, from which the "rostrum," or orator's stage, took its name. His statue was placed on the column. He was consul in B.C. 338. See B. xxxiv. c. 11.

[72] Hardouin supposes that this event took place in the consulship of Papirius Cursor, A.U.C. 461, B.C. 292. According to the commonly received Chronology, Pyrrhus came into Italy, B.C. 280, twelve years after the consulship of Papirius Cursor.—B.

[73] According to Censorinus, in his treatise, De Die Natali, it was difficult to decide which was the most ancient dial in Rome; some writers agreeing with Pliny, that it was the one in the Temple of Quirinus, others that in the Capitol, and others the one in the Temple of Diana, on the Aventine.—B.

[74] Marcus conjectures, that this account of the dial was contained in the work of Varro, De Rebus Humanis, referred to by Aulus Gellius, B. iii. c. 2, but not now extant.—B.

[75] Owing to the circumstance of the dial having been adapted to the latitude of Catina, now Catania, about four degrees south of Rome —B.

happened to be cloudy, until the ensuing lustrum; at which time Scipio Nasica, the colleague of Lænas, by means of a clepsydra, was the first to divide the hours of the day and the night into equal parts: and this time-piece he placed under cover and dedicated, in the year of Rome 595;[76] for so long a period had the Romans remained without any exact division of the day. We will now return to the history of the other animals, and first to that of the terrestrial.

SUMMARY.—Remarkable events, narratives, and observations, seven hundred and forty-seven.

ROMAN AUTHORS QUOTED.—Verrius Flaccus,[77] Cneius Gellius,[78] Licinius Mutianus,[79] Massurius Sabinius,[80] Agrippina, the wife of Claudius,[81] M. Cicero,[82] Asinius Pollio,[83] M. Varro,[84] Messala Rufus,[85] Cornelius Nepos,[86] Virgil,[87] Livy,[88] Cordus,[89] Melis-

[76] Vitruvius describes this instrument. Marcus, Ajasson, vol. vi. pp. 218, 219, gives us an account of two kinds of clepsydræ, or water-clocks, which were constructed by the Greeks.—B. See also the account of clocks in Beckmann's History of Inventions, vol. i.

[77] See end of B. iii.

[78] He was a contemporary of the Gracchi, and was author of a History of Rome, down to B.C. 145 at least; supposed to have been very voluminous and full in its details of the legendary history of the Roman nation. Livy probably borrowed extensively from it.

[79] See end of B. ii.

[80] A hearer of Ateius Capito, and celebrated as a jurist under Tiberius and later emperors. From him a school of legists, called the Sabiniani, took their rise. He wrote some works on the Civil Law. Pliny quotes him, as we have seen, in c. 4, to show the possibility of gestation being to the thirteenth month.

[81] Daughter of the elder Agrippina and Germanicus, and the mother of Nero. Her memoirs of her life are quoted by Tacitus, but we have no remains of them.

[82] The great Roman orator and philosopher.

[83] A distinguished orator, poet, and historian of the Augustan age. He was an active partisan of Cæsar, and the patron of Horace and Virgil, whose property he saved from confiscation. He wrote a history of the civil war in seventeen books, but none of his works have come down to us. His tragedies are highly spoken of by Virgil and Horace.

[84] See end of B. ii.

[85] Nothing whatever seems to be known relative to this author, who is mentioned in c. 53 of this Book. See the Note to that passage.

[86] See end of B. ii.

[87] The author of the Æneid and the Georgics, the friend of Augustus, Pollio, and Mæcenas, one of the most virtuous men of ancient time, and the greatest probably of the Latin poets.

[88] See end of B. vi.

[89] Cremutius Cordus, a Roman historian, who was impeached before Tiberius, by two of his clients, for having praised Brutus, and styled Cassius

sus,[90] Sebosus,[91] Cornelius Celsus,[92] Maximus Valerius,[93] Trogus,[94] Nigidius Figulus,[95] Pomponius Atticus,[96] Pedianus Asconius,[97] Fabianus,[98] Cato the Censor,[99] the Register of the Triumphs,[1] Fabius Vestalis.[2]

"the last of the Romans," his real offence being the freedom with which, in his work, he had spoken against Sejanus. He starved himself to death, and the senate ordered his works to be burnt. Some copies, however, were preserved by his daughter, Marcia, and his friends.

[90] C. Mæcenas Melissus, a native of Spoletum. He was of free birth, but exposed in his infancy, and presented to be reared by Mæcenas. He was afterwards manumitted, and obtained the favour of Augustus, who employed him to arrange the library in the portico of Octavia. At an advanced age he commenced the composition of a collection of jokes and bon-mots. He also wrote plays of a novel character, which he styled "Trabeatæ." [91] See end of B. ii.

[92] A. Cornelius Celsus, the celebrated writer on medicine. Little is known of his age or origin, or even his profession. It is supposed, however, that he lived in the time of Augustus and Tiberius. His treatises on Medicine and Surgery are still used as hand-books for the medical student, and his style is much admired for its purity.

[93] Or Valerius Maximus. He is supposed to have lived in the time of Tiberius, and wrote nine books on memorable deeds and sayings, which still survive, and are replete with curious information.

[94] Trogus Pompeius, the Roman Historian, on whose work Justin founded his history. His grandfather, who was of the Gaulish tribe of the Vocontii, received the citizenship of Rome during the war against Sertorius; and his father was a private secretary of Julius Cæsar. Except as set forth in the pages of Justin, no portion of his history, except a few scattered fragments, exists. The quotations from him in Pliny, are thought to have been all taken from a treatise of his, "De Animalibus," mentioned by Charisius, and not from his historical works. [95] See end of B. vi.

[96] The friend and correspondent of Cicero, descended from one of the most ancient equestrian families of Rome. His surname was, probably, given to him from his long residence at Athens, and his intimate acquaintance with the Greek language and literature. Though, generally, of a virtuous character, he neglected no means of making money, and was, consequently, a man of great opulence. He wrote a book of Annals, or rather an Epitome of Roman History, which, like the rest of his works, has perished.

[97] He lived in the time of Augustus and Tiberius, and is mentioned by the Eusebian Chronicle, as becoming blind in his seventy-third year, during the reign of Vespasian, and attaining the age of eighty-five. He wrote a work on the Life of Sallust, another on the Censurers of Virgil, and commentaries on the speeches of Cicero, of which alone a few portions are still extant, and are of considerable value in a historical as well as a grammatical point of view.

[98] Probably Papirius Fabianus. See end of B. ii.

[99] See end of B. iii. [1] See end of B. v.

[2] Nothing whatever is known relative to this author.

FOREIGN AUTHORS QUOTED.—Herodotus,[3] Aristeas,[4] Bæton,[5] Isigonus,[6] Crates,[7] Agatharchides,[8] Calliphanes,[9] Aristotle,[10] Nymphodorus,[11] Apollonides,[12] Phylarchus,[13] Damon,[14] Megasthenes,[15] Ctesias,[16] Tauron,[17] Eudoxus,[18] Onesicritus,[19] Clitarchus,[20] Duris,[21] Artemidorus,[22] Hippocrates[23] the physician,

[3] See end of B. ii.

[4] He is said to have written an epic poem, called Arimaspeia, full of marvellous stories respecting the Arimaspi and the golden regions. See c. 2 of the present Book, and Note 98 in p. 211, where some further particulars relative to him will be found.

[5] See end of B. v.

[6] He was a native of Nicæa, in Bithynia, and the author of some works, characterized as being full of incredible stories. Cyril, however, says, that he was born at Cittium, and Gellius styles him a writer of no small authority. He is generally looked upon as belonging to the class of writers called Paradoxographi.

[7] See end of B. iv.

[8] Or Agatharchus, a Greek grammarian of Cnidos. He was, as we learn from Strabo, attached to the Peripatetic school of philosophy, and wrote several historical and geographical works. He was living in the reign of Ptolemy Philometer, who died B.C. 146. His works, which were very numerous, are enumerated by Photius.

[9] See end of B. iii.

[10] See end of B. ii.

[11] See end of B. iii.

[12] Strabo, in B. ii. speaks of a Periplus of Europe, written by a person of this name. There was also a physician called Apollonides, a native of Cos, who practised at the court of Artaxerxes Longimanus, where he was eventually put to death.

[13] A Greek historian of the reign of Ptolemy Euergetes, and said by different authors to have been a native of Athens, Naucratis in Egypt, and Sicyon. He wrote a work on history, of considerable value, though his credit as an historian has been violently attacked by Polybius.

[14] Of Cyrene, an author of uncertain date. He wrote a work on the philosophers.

[15] See end of B. v.

[16] See end of B. ii.

[17] Nothing is known of this writer.

[18] For Eudoxus of Cnidos, see end of B. ii: and for Eudoxus of Cyzicus, see end of B. vi.

[19] See end of B. ii.

[20] See end of B. vi.

[21] Of Samos, a descendant of Alcibiades, who flourished in the time of Ptolemy Philadelphus. When a boy, he gained a pugilistic victory at Olympia. He eventually became tyrant of Samos; but nothing further is known of his career. From what Pliny says, in c. 40. of B. iii., he is supposed to have been living in the year B.C. 281. He was the author of a history of Greece, and other historical works, of which, however, we possess no remains.

[22] See end of B. ii.

[23] Of Cos, the father of the medical art, and in many respects the most

Asclepiades[24] the physician, Hesiod,[25] Anacreon,[26] Theopompus,[27] Hellanicus,[28] Damastes,[29] Ephorus,[30] Epigenes,[31] Berosus,[32] Petosiris,[33] Necepsos,[34] Alexander Polyhistor,[35] Xenophon,[36] Callimachus,[37] Democritus,[38] Diyllus[39] the historian, Strabo,[40] who wrote against the Euremata of Ephorus, Heraclides Ponticus,[41] Aclepiades,[42] who wrote the Tragodoumena, Philostephanus,[43] Hegesias,[44] Archima-

celebrated physician of ancient or modern times. It is supposed that he flouished in the fifth century before Christ. A great number of medical works, still extant, have been attributed to him: but there were many other physicians who either had, or assumed, this name.

[24] Of Prusa, in Bithynia. He is mentioned in c. 37 of this Book. See Note 44 in p. 183.

[25] Of Ascra, in Bœotia, the earliest of the Greek poets, with the exception of Homer. His surviving works, are his "Works and Days," and the "Theogony."

[26] Of Teos, in Asia Minor, famous for his amatory and lyric poems; he died at the age of eighty-five. Pliny mentions the supposed mode of his death, in c. 5, of the present Book.

[27] See end of B. ii.
[28] See end of B. iv.
[29] See end of B. iv.
[30] See end of B. iv.
[31] See end of B. ii.

[32] A priest of Belus, at Babylonia, and a historian of the time of Alexander the Great. He wrote a History of Babylonia, of which some fragments are preserved by the ecclesiastical writers.

[33] See end of B. ii.
[34] *See end of B. ii.*
[35] See end of B. iii.
[36] See end of B. iv.
[37] See end of B. iv.
[38] See end of B. ii.

[39] An Athenian, who wrote a history of Greece and Sicily in twenty-six or twenty-seven books, coming down to B.C. 298, from which time Psaon of Platæa continued it.

[40] Of Lampsacus, a Peripatetic philosopher, and tutor of Ptolemy Philadelphus. He succeeded Theophrastus, B.C. 288, as head of that school. He devoted himself to the study of natural science, and appears to have held a pantheistic system of philosophy. By Cudworth, Leibnitz, and others, he has been charged with atheism. The "Euremata" of Ephorus, here mentioned, was a book which treated of inventions.

[41] See end of B. iv.

[42] Of Tragilus, in Thrace, a disciple and contemporary of Isocrates. His book, here mentioned, treated on the subjects chosen by the Greek tragic writers, and the manner in which they had dealt with them.

[43] Of Cyrene, the friend or disciple of Callimachus. He flourished under Ptolemy Philadelphus, about B.C. 249. He wrote works on places in Asia, on Rivers, and on Islands; but none of his compositions have survived.

[44] A native of Magnesia, who wrote on rhetoric and history, probably in the early part of the third century B.C.. Strabo speaks but slightingly of him; and Cicero and Dionysius of Halicarnassus agree in looking upon

chus,[45] Thucydides,[46] Mnesigiton,[47] Xenagoras,[48] Metrodorus[49] of Scepsos, Anticlides,[50] Critodemus.[51]

him as a downright blockhead. Upon the other hand, Varro rather admires his style. The history of Alexander the Great was his favourite theme; and he is represented by Aulus Gellius as dealing rather largely in the marvellous.

[45] Mentioned by Athenæus as having written a history of Eubœa.

[46] See end of B. iii.; and see c. 31 of the present Book, and Note 6 in p. 175.

[47] Nothing whatever appears to be known of this writer.

[48] See end of B. iv.

[49] See end of B. iii.

[50] See end of B. iv.

[51] See end of B. ii.

BOOK VIII.

THE NATURE OF THE TERRESTRIAL ANIMALS.

CHAP. 1. (1.)—ELEPHANTS; THEIR CAPACITY.

LET us now pass on to the other animals, and first of all to the land animals. The elephant is the largest of them all, and in intelligence approaches the nearest to man. It understands the language of its country, it obeys commands, and it remembers all the duties which it has been taught. It is sensible alike of the pleasures of love and glory, and, to a degree that is rare among men even, possesses notions of honesty, prudence, and equity; it has a religious respect also for the stars, and a veneration for the sun and the moon.[1] It is said by some authors, that, at the first appearance of the new moon, herds of these animals come down from the forests of Mauritania to a river, the name of which is Amilo;[2] and that they there purify themselves in solemn form by sprinkling their bodies with water; after which, having thus saluted the heavenly body, they return to the woods, carrying before them[3] the young ones which are fatigued. They are supposed to have a notion, too, of the differences of religion;[4]

[1] Cuvier remarks, that this account of its superior intelligence is exaggerated, it being no greater than that of the dog, if, indeed, equal to it. The opinion may perhaps have arisen from the dexterity with which the animal uses its trunk; but this is to be ascribed not to its own intelligence, but to the mechanical construction of the part. The Indians, from whom we may presume that Pliny derived his account, have always regarded the elephant with a kind of superstitious veneration.—B.

[2] Some would read this "Amilo," and others "Annulo." Hardouin considers it the same with the river Valo, which is mentioned by Ptolemy, B. iv. c. 1, and said to have its rise in the mountains known as the Seven Brothers, and mentioned in B. v. c. 1.

[3] "Præ se ferentes," probably alluding to the use which the animal makes of its trunk in seizing and carrying bodies.—B.

[4] "Alienæ religionis." The meaning of this is doubtful. It may mean "differences in religion," or "religious feeling in others," or perhaps, to judge from the context, "the religious regard for their oath which others feel."

and when about to cross the sea, they cannot be prevailed upon to go on board the ship, until their keeper has promised upon oath that they shall return home again. They have been seen, too, when worn out by disease, (for even these vast masses are liable to disease,) lying on their back, and throwing the grass up into the air, as if deputing the earth to intercede for them with its prayers.[5] As a proof of their extreme docility, they pay homage to the king, fall upon their knees, and offer him the crown. Those of smaller growth, which the Indians call bastards,[6] are employed by them in ploughing.[7]

CHAP. 2. (2.)—WHEN ELEPHANTS WERE FIRST PUT INTO HARNESS.

The first harnessed elephants that were seen at Rome, were in the triumph of Pompeius Magnus over Africa, when they drew his chariot; a thing that is said to have been done long before, at the triumph of Father Liber on the conquest of India. Procilius[8] says, that those which were used at the triumph of Pompeius, were unable to go in harness through the gate of the city. In the exhibition of gladiators which was given by Germanicus,[9] the elephants performed a sort of dance with their uncouth and irregular movements. It was a common thing to see them throw arrows with such strength, that the wind was unable to turn them from their course, to imitate among themselves the combats of the gladiators, and to frolic through the steps of the Pyrrhic dance.[10] After this,

[5] "Veluti tellure precibus alligata," one of the harsh metaphorical expressions occasionally occurring in Pliny, which it is very difficult to translate, and even perhaps fully to comprehend.—B.

[6] "Nothi."

[7] Cuvier remarks, that there are two kinds of elephants, one of which attains sixteen feet, and is chiefly known in Cochin China and Tonquin, while those that are domesticated in India are seldom more than half that height. They are supposed, however, to be only varieties of the same species. Pliny, in B. vi. c. 22, gives an account of the uses which the Indians made of the elephant, and of their different sizes, but he does not state there that it is the smaller ones only that are employed in agriculture.—B.

[8] Plutarch informs us, that Pompey had resolved to have his chariot drawn by four elephants, but finding the gate too narrow, he was obliged to use horses.—B.

[9] See an account of this, and of the feats performed by the elephants, in Ælian, Hist. Anim. B. ii. c. 11.—B.

[10] The Pyrrhic dance has been referred to in the last Book, c. 57. p.

too, they walked upon the tight-rope,[11] and four of them would carry a litter in which lay a fifth, which represented a woman lying-in. They afterwards took their places at table, reclining upon couches which were filled with people; and so nicely did they manage their steps, that they did not so much as touch any of those who were drinking there.

CHAP. 3. (3.)—THE DOCILITY OF THE ELEPHANT.

It is a well-known fact,[12] that one of these animals, who was slower than usual in learning what was taught him, and had been frequently chastised with blows, was found conning over his lesson in the night-time.[13] It is a most surprising thing also, that the elephant is able not only to walk up the tight-rope backwards; but to come down it as well, with the head foremost.[14] Mutianus, who was three times consul, informs us that one of these animals had been taught to trace the Greek letters, and that he used to write in that language the following words: "I have myself written these words, and have dedicated the Celtic spoils."[15] Mutianus states also, that he himself was witness to the fact, that when some elephants were being landed at Puteoli[16] and were compelled to leave the ship, being terrified at the length of the platform, which extended from the vessel to the shore, they walked backwards, in order to deceive themselves by forming a false estimate of the distance.

231. It is not improbable that the elephants employed in this dance were caparisoned with armour.

[11] However ill adapted the elephant may appear, from its size and form, for this feat, we have the testimony of Seneca, Suetonius, Dion Cassius, and Ælian, to the truth of the fact.—B.

[12] Plutarch, in his treatise on the Shrewdness of Animals, tells us that this wonderful circumstance happened at Rome.

[13] "Eadem illa meditantem," is the expression. It would be curious to know in what way the elephant showed that he was "conning" over his lesson.

[14] Suetonius is supposed to allude to this circumstance.—B. He tells us that a horseman ascended a tight rope on an elephant's back.

[15] Ælian informs us, that he had seen an elephant write Latin characters. Hardouin remarks, that the Greek would be Αὐτὸς ἐγὼ τάδ' ἔγραψα, λαφυρά τε Κελτ' ἀνέθηκα.

[16] See B. iii. c. 9.

CHAP. 4.—WONDERFUL THINGS WHICH HAVE BEEN DONE BY THE ELEPHANT.

These animals are well aware that the only spoil that we are anxious to procure of them is the part which forms their weapon of defence, by Juba, called their horns, but by Herodotus, a much older writer, as well as by general usage and more appropriately, their teeth.[17] Hence it is that, when their tusks have fallen off, either by accident or from old age, they bury them in the earth.[18] These tusks form the only real ivory, and, even in these, the part which is covered by the flesh is merely common bone, and of no value whatever; though, indeed, of late, in consequence of the insufficient supply of ivory, they have begun to cut the bones as well into thin plates. Large teeth, in fact, are now rarely found, except in India, the demands of luxury[19] having exhausted all those in our part of the world. The youthfulness of the animal is ascertained by the whiteness of the teeth.[20] These animals take the greatest care of their teeth; they pay especial attention to the point of one of them, that it may not be found blunt when wanted for combat; the other they employ for various purposes, such as digging up roots and pushing forward heavy weights. When they are surrounded by the hunters, they place those in front which have the smallest teeth, that the enemy may think that the spoil is not worth the combat; and afterwards, when they are weary of resistance, they break off their teeth, by

[17] As to the tusks of the elephant, no doubt the opinion of Herodotus, B. iii. c. 97, is correct, that they are teeth, and not horns. They are essentially composed of the same substance with the other teeth, and, like them, are inserted into the jaw, and not into the os frontis, as is the case with horns.—B.

[18] Not improbably, the great quantity of fossil ivory which has been found, may have given rise to this tale. We have in Lemaire, vol. iii. p. 581, a long extract from Cuvier's "*Recherches sur les ossements fossiles*," in which he gives an account of the parts of the world in which the bones of the elephant have been discovered.—B.

[19] Tables and bedsteads were not only covered or veneered with ivory among the Romans, but, in the later times, made of the solid material, as we learn from Ælian and Athenæus.

[20] Plutarch, in his treatise on the Shrewdness of Animals, gives the same statement respecting the whiteness of the teeth in the young animal. —B.

dashing them against a tree, and in this manner pay their ransom.[21]

CHAP. 5. (4.)—THE INSTINCT OF WILD ANIMALS IN PERCEIVING DANGER.

It is a wonderful thing, that most animals are aware why it is that they are sought after, and what it is, that, under all circumstances, they have to guard against. When an elephant happens to meet a man in the desert, who is merely wandering about, the animal, it is said, shows himself both merciful and kind, and even points out the way. But the very same animal, if he meets with the traces of a man,[22] before he meets the man himself, trembles in every limb, for fear of an ambush, stops short and scents the wind, looks around him, and snorts aloud with rage; and then, without trampling upon the object, digs it up,[23] and passes it to the next one, who again passes it to the one that follows, and so on from one to the other, till it comes to the very last. The herd then faces about, returns, and ranges itself in order of battle; so strongly does the odour, in all cases, attach itself to the human footstep, even though, as is most frequently the case, the foot itself is not naked. In the same way, too, the tigress, which is the dread of the other wild beasts, and which sees, without alarm, the traces even of the elephant itself, is said at once, upon seeing the footsteps of man, to carry off her whelps. How has the animal acquired this knowledge? And where has it seen him before, of whom it stands in such dread? Doubt there can be none, that forests such as it haunts are but little frequented by man! It is not to be wondered at, if they are astonished at the print of a footstep before unknown; but how should they know that there is anything that they ought to dread? And, what is still more, why should they dread even the very sight of man, seeing that they are so far supe-

[21] It is scarcely necessary to remark, that these statements respecting the sagacity of the elephant in connection with their teeth, are without foundation.—B.

[22] The word employed is *vestigium*; it is explained by Ælian to refer to the herbage, which has received both the visible impression as well as the odour of the foot.—B.

[23] In the case of a footstep, this must mean the ground with which the foot has come in contact.

rior to him in strength, size, and swiftness? No doubt, such is the law of Nature, such is the influence of her power—the most savage and the very largest of wild beasts have never seen that which they have reason to fear, and yet instantly have an instinctive feeling of dread, when the moment has come for them to fear.[24]

(5.) Elephants always move in herds.[25] The oldest takes the lead, and the next in age brings up the rear. When they are crossing a river, they first send over the smallest, for fear lest the weight of the larger ones may increase the depth of the channel, by working away the bed of the river. We learn from Antipater, that King Antiochus had two elephants, which he employed in his wars, and to which he had given the names of celebrated men; and that they were aware too of this mark of distinction.[26] Cato, in his Annals, while he has passed over in silence the names of the generals, has given that of an elephant called Surus, which fought with the greatest valour in the Carthaginian army, and had lost one of its tusks. When Antiochus was sounding the ford of a river, an elephant named Ajax, which on other occasions had always led the van, refused to enter the stream; upon which proclamation was made, that the first rank should belong to the one which should take the lead in passing over. One called Patroclus hazarded the attempt, and as a reward, the king presented it with some silver pendants,[27] a kind of ornament with which these animals are particularly delighted, and assigned it all the other marks of

[24] It is a general opinion, and one founded upon observations of daily occurrence, that animals have an instinctive dread of man. We have, however, facts stated by travellers of undoubted veracity, which would lead to an opposite conclusion. One of the most remarkable is the account which Denham gives of the tameness of the birds in Lake Tchad. —B.

[25] Cuvier observes, that this is correct; see Ajasson, vol. vi. p. 408, and Lemaire, vol. iii. p. 338.—B.

[26] "Novere ea." It is doubtful whether these words do not mean something more than merely "knew their names," as Hardouin explains it, for that would be nothing wonderful in an elephant. On the other hand, to say that they were aware of the honour which had been conferred on them, in giving the names of famous men, would be to make a statement which exceeds belief; for how could the elephants *show* that they appreciated this honour, even supposing that they did appreciate it? Pliny's elliptical style repeatedly gives rise to doubts of this nature.

[27] "Phaleris." See Notes to B. vii. c. 29, p. 170.

command. Upon this, the elephant that had been degraded refused to take its food, and so preferred death to ignominy. Indeed their sense of shame is wonderful, and when one of them has been conquered, it flies at the voice of the conqueror, and presents him with earth and vervain.[28]

These animals are sensible to feelings of modesty; they never couple but in secret:[29] the male after it has attained its fifth year, the female after the age of ten.[30] It is said, that their intercourse takes place only every second year, and for five days only, and no more; on the sixth day they plunge into a river, before doing which they will not rejoin the herd. Adulterous intercourse is unknown to them, and they have none of those deadly combats for the possession of the female, which take place among the other animals. Nor is this because they are uninfluenced by the passion of love. One in Egypt, we are told, fell in love with a woman, who was a seller of garlands; and let no one suppose that he made a vulgar choice, for she was the especial object of the love of Aristophanes, who held the very highest rank as a grammarian. Another became attached to the youth Menander, a native of Syracuse, in the army of Ptolemy; whenever it did not see him, it would manifest the regret which it experienced, by refusing its food. Juba gives an account also of a female who dealt in perfumes, to whom one of these creatures formed an attachment. All these animals manifested their attachment by their signs of joy at the sight of the person, by their awkward caresses, and by keeping for them and throwing into their bosom the pieces of money which the public had given them.[31] Nor, indeed,

[28] Pliny informs us, in B. xxii. c. 4, that this was done by those conquered in battle.—B.

[29] We may conclude, from the account given by Aristotle, Hist. Anim. B. v. c. 2, and by Ælian, B. viii. c. 17, that this opinion was generally adopted by the ancients.—B. We learn from Cuvier, who mentions the results of M. Corse's observations, that there is no such modesty in the elephant, and that the two at the Museum of Natural History at Paris gave proof of the fact.

[30] This is erroneous; the males do not arrive at puberty before the females, which takes place about the fourteenth or fifteenth year. In the elephant which was under the inspection of M. Corse, the period of gestation was between twenty and twenty-one months, so that there may be some foundation for the biennial period, but the term of five days is entirely imaginary. Aristotle makes the interval three years.—B.

[31] There is a passage in Suetonius, in his Life of Augustus, and one in

ought we to be surprised, that an animal which possesses memory should be sensible of affection: for the same author relates, that an elephant recognized, after the lapse of many years, an old man who had been its keeper in his youth. They would seem also to have an instinctive feeling of justice. King Bocchus once fastened thirty elephants to the stake, with the determination of wreaking his vengeance on them, by means of thirty others; but though men kept sallying forth among them to goad them on, he could not, with all his endeavours, force them to become the ministers of the cruelty of others.

CHAP. 6. (6.)—WHEN ELEPHANTS WERE FIRST SEEN IN ITALY.

Elephants were seen in Italy, for the first time, in the war with King Pyrrhus,[32] in the year of the City 472; they were called "Lucanian oxen," because they were first seen in Lucania.[33] Seven years after this period, they appeared at Rome in a triumph.[34] In the year 502 a great number of them were brought to Rome, which had been taken by the pontiff Metellus, in his victory gained in Sicily over the Carthaginians;[35] they were one hundred and forty-two[36] in number, or, as some say, one hundred and forty, and were conveyed to our shores upon rafts, which were constructed on rows of hogsheads joined together. Verrius informs us, that they fought in the Circus,

Macrobius, where the custom of offering pieces of money to elephants, which they took up with the proboscis, is referred to.—B.

[32] In the Epitome of Livy, B. xiii., it is said, that Valerius Corvinus was unsuccessful in his engagements with Pyrrhus, in consequence of the terror produced by the elephants.—B.

[33] Varro, De Ling. Lat. B. vi. calls the elephant "Lucas bos," "the Lucanian ox," from the fact of this large quadruped being first seen by the Romans in the Lucanian army.—B.

[34] According to Seneca, Manius Curius Dentatus was the first who exhibited elephants in his triumph over Pyrrhus. See also Florus, B. i. c. 18.—B.

[35] There are coins extant struck to commemorate this victory, in which there is the figure of an elephant.—B.

[36] The number of elephants brought to Rome by Metellus is differently stated; Florus, B. ii., says that they were "about a hundred;" in the Epitome of Livy, B. xix., they are one hundred and twenty, and the same number is mentioned by Seneca.—B.

and that they were slain with javelins, for want of some better method of disposing of them; as the people neither liked to keep them nor yet to give them to the kings.[37] L. Piso tells us only that they were brought into the Circus; and for the purpose of increasing the feeling of contempt towards them, they were driven all round the area of that place by workmen, who had nothing but spears blunted at the point. The authors who are of opinion that they were not killed, do not, however, inform us how they were afterwards disposed of.

CHAP. 7. (7.)—THE COMBATS OF ELEPHANTS.

There is a famous combat mentioned of a Roman with an elephant, when Hannibal compelled our prisoners to fight against each other. The one who had survived all the others he placed before an elephant, and promised him his life if he should slay it; upon which the man advanced alone into the arena, and, to the great regret of the Carthaginians, succeeded in doing so.[38] Hannibal, however, thinking that the news of this victory might cause a feeling of contempt for these animals, sent some horsemen to kill the man on his way home. In our battles with Pyrrhus it was found, on making trial, that it was extremely easy to cut off the trunks of these animals.[39] Fenestella informs us, that they fought at Rome in the Circus for the first time during the curule ædileship of Claudius Pulcher, in the consulship of M. Antonius and A. Postumius, in the year of the City 655; and that twenty years afterwards, during the curule ædileship of the Luculli, they were set to fight against bulls. In the second consulship[40] of

[37] Who were their allies, or rather vassals; for in such case, they might make a dangerous use of them.

[38] Val. Maximus, B. ix. c. 2, gives an account of the brutality of Hannibal on this occasion, in forcing the Roman captives to fight against each other, until only one was left; but he does not make mention of the combat with the elephant.—B.

[39] Florus, B. i. c. 18, states, that this was practised in the later engagements with Pyrrhus, and that by these means the elephants were either destroyed or rendered useless. Cuvier remarks, that the trunk is composed of small muscles and fatty matter, enveloped by a tendinous membrane, and covered with skin.—B.

[40] A.U.C. 678.—B.

Pompeius, at the dedication of the temple of Venus Victrix,[41] twenty elephants, or, as some say, seventeen, fought in the Circus against a number of Gætulians, who attacked them with javelins. One of these animals fought in a most astonishing manner; being pierced through the feet, it dragged itself on its knees towards the troop, and seizing their bucklers, tossed them aloft into the air: and as they came to the ground they greatly amused the spectators, for they whirled round and round in the air, just as if they had been thrown up with a certain degree of skill,[42] and not by the frantic fury of a wild beast. Another very wonderful circumstance happened; an elephant was killed by a single blow. The weapon pierced the animal below the eye, and entered the vital part of the head. The elephants attempted, too, by their united efforts, to break down the enclosure, not without great confusion among the people who surrounded the iron gratings.[43] It was in consequence of this circumstance, that Cæsar, the Dictator, when he was afterwards about to exhibit a similar spectacle, had the arena surrounded with trenches[44] of water, which were lately filled up by the Emperor Nero,[45] when he added the seats for

[41] "Venus the Conqueror." This temple was dedicated by Pompey, after his conquests in the East, in his second consulship, B.C. 55.

[42] Pliny here refers to an art, practised among the Romans, of throwing up a shield into the air, in such a manner that, after performing a circuit, it would fall down on a certain spot; this trick is also alluded to by Martial, B. ix. Ep. 39.—B. The exercise with the boomerang, which was known to the ancient Assyrians, and has been borrowed in modern times from the people of Australasia, seems to have been somewhat similar to this.

[43] "Clathri." These were gratings of iron trellis-work, placed in front of the lowest row of the spectators, to protect them from the wild beasts. This exhibition took place in Pompey's Amphitheatre, in the Campus Martius. The arena of the amphitheatre was mostly surrounded by a wall, distinguished by the name of "podium," which was generally about eighteen feet in height, and the top of which was protected by this trellis-work. In the present instance, however, the "podium" can hardly have been so much as eighteen feet in height.

[44] "Euripis." Julius Cæsar caused a canal, ten feet wide, to be formed in the Circus Maximus, around the bottom of the "podium," to protect the spectators from the wild beasts. These "euripi" probably took their name from the narrow channel so called, which lay between Bœotia and the island of Eubœa.

[45] We learn, however, from Lampridius, in his Life of Heliogabalus, that this euripus was afterwards restored to the Circus.

the equestrian order.[46] When, however, the elephants in the exhibition given by Pompeius had lost all hopes of escaping, they implored the compassion of the multitude by attitudes which surpass all description, and with a kind of lamentation bewailed their unhappy fate. So greatly were the people affected by the scene, that, forgetting the general altogether, and the munificence which had been at such pains to do them honour, the whole assembly rose up in tears, and showered curses on Pompeius, of which he soon afterwards became the victim. They fought also in the third consulship of the Dictator Cæsar, twenty of them against five hundred foot soldiers.[47] On another occasion twenty elephants, carrying towers,[48] and each defended by sixty men, were opposed to the same number of foot soldiers as before, and an equal number of horsemen. Afterwards, under the Emperors Claudius and Nero, the last exploit[49] that the gladiators performed was fighting single-handed[50] with elephants.

The elephant is said to display such a merciful disposition towards animals that are weaker than itself, that, when it finds itself in a flock of sheep, it will remove with its trunk[51] those that are in the way, lest it should unintentionally

[46] Tacitus and Suetonius mention this separation of the equites from the rest of the spectators: it took place A.U.C. 816.—B. Up to the time of Augustus, A.U.C. 758, the senators, equites, and people sat indiscriminately in the Circus; but that emperor, and after him Claudius, Nero, and Domitian, separated the senators and the equites from the commons.

[47] There are coins which bear the figure of an elephant and the word Cæsar, probably struck in commemoration of these games.—B.

[48] The practice of placing towers filled with soldiers on the backs of the elephants is alluded to by Lucretius, B. v. l. 1301, and by Juvenal, Sat. xii. l. 110.—B. It still prevails in India.

[49] "Consummatione gladiatorum." There is some doubt about the exact meaning of this. It may mean, "at the conclusion of the gladiatorial games," as exhibited; or, what is more probable, "as the crowning exploit of the gladiators," who wished thereby to secure their manumission, which was granted after remarkable feats of valour. Cælius Rhodiginus, B. xi. c. 11, prefers this last meaning: Dalechamps, with whom Ajasson coincides, the first.

[50] "Postea singulis." Those who coincide with Dalechamps and Ajasson, as to the meaning, would read it, that at the end of the gladiatorial games, the elephants fought singly one against another, the gladiators having retired from the arena.

[51] Pliny here uses the word "manu," "hand," which although, as he afterwards remarks, it may not be an inappropriate metaphor, could scarcely be admitted in our language.—B.

trample upon them.[52] They will never do any mischief except when provoked, and they are of a disposition so sociable, that they always move about in herds, no animal being less fond of a solitary life. When surrounded by a troop of horsemen, they place in the centre of the herd those that are weak, weary, or wounded, and then take the front rank each in its turn, just as though they acted under command and in accordance with discipline. When taken captive, they are very speedily tamed, by being fed on the juices of barley.[53]

CHAP. 8. (8.)—THE WAY IN WHICH ELEPHANTS ARE CAUGHT.

In India[54] they are caught by the keeper guiding one of the tame elephants towards a wild one which he has found alone or has separated from the herd; upon which he beats it, and when it is fatigued mounts and manages it just the same way as the other. In Africa[55] they take them in pit-falls; but as soon as an elephant gets into one, the others immediately collect boughs of trees and pile up heaps of earth, so as to form a mound, and then endeavour with all their might to drag it out. It was formerly the practice to tame them by driving the herds with horsemen into a narrow defile, artificially made in such a way as to deceive them by its length; and when thus enclosed by means of steep banks and trenches, they were rendered tame by the

[52] This trait has been observed in all ages; the elephant has been known to remove with its trunk a child lying in its way, and in danger of being injured. It appears to have an instinctive dread of trampling on a living animal; the same has also been observed in the horse.—B.

[53] "Hordeo succo;" the exact meaning has been the subject of much discussion; it probably refers to some preparation of barley used by the ancients, perhaps a maceration of the corn in water; it is scarcely to be supposed, however, that the words are to be taken literally.—B.

[54] Albertus Magnus, in his work on Animals, B. viii. c. 3, gives a fuller account of this method of taking the wild elephant. He says: "A man, riding on a tame elephant, guides him to the woods, and when he has met with some wild ones, drives the tame one against them, and makes it strike them with its trunk: the tame one, being better fed, soon conquers the wild elephant, and throws him to the ground; upon which, the man leaps upon him, and flogs him with a whip, and immediately the other becomes quiet." Strabo, B. xv., gives a different account of the mode of catching and taming the elephant in India.

[55] This appears to have been taken from Plutarch; and we have the same statement in Ælian, who particularly speaks of the sagacity of the animal, in endeavouring to extricate itself from the trench.—B.

effects of hunger; as a proof of which, they would quietly take a branch that was extended to them by one of the men. At the present day, when we take them for the sake of their tusks, we throw darts at their feet, which are in general the most tender part of their body. The Troglodytæ, who inhabit the confines of Æthiopia, and who live entirely on the flesh of elephants procured by the chase, climb the trees which lie near the paths through which these animals usually pass. Here they keep a watch, and look out for the one which comes last in the train; leaping down upon its haunches, they seize its tail with the left hand, and fix their feet firmly upon the left thigh. Hanging down in this manner, the man, with his right hand, hamstrings the animal on one side, with a very sharp hatchet. The elephant's pace being retarded by the wound, he cuts the tendons of the other ham, and then makes his escape; all of which is done with the very greatest celerity. Others, again, employ a much safer, though less certain method; they fix in the ground, at considerable intervals, very large bows upon the stretch; these are kept steady by young men remarkable for their strength, while others, exerting themselves with equal efforts, bend them, and so wound the animals as they pass by, and afterwards trace them by their blood. The female elephant is much more timid by nature than the male.

CHAP. 9. (9.)—THE METHOD BY WHICH THEY ARE TAMED.

Elephants of furious temper are tamed by hunger[56] and blows, while other elephants are placed near to keep them quiet, when the violent fit is upon them, by means of chains. Besides this, they are more particularly violent when in heat,[57] at which time they will level to the ground the huts of the Indians with their tusks. It is on this account that they are prevented from coupling, and the females are kept in herds

[56] We have the same account given by Ælian and by Strabo.—B.

[57] Aristotle, Hist. Anim. B. vi. c. 18, remarks, that the violence of the animal, which is produced by an accidental cause, as also that arising from venereal excitement, are counteracted by opposite modes of treatment; the one by depriving it of food, the other by over-feeding it; the former, in order to break its strength, and the latter, to divert it into a different channel.—B.

separate from the males, just the same way as with other cattle. Elephants, when tamed, are employed in war, and carry into the ranks of the enemy towers filled with armed men; and on them, in a very great measure, depends the ultimate result of the battles that are fought in the East. They tread under foot whole companies, and crush the men in their armour. The very least sound, however, of the grunting of the hog terrifies them:[58] when wounded and panic-stricken, they invariably fall back, and become no less formidable for the destruction which they deal to their own side, than to their opponents. The African elephant is afraid of the Indian, and does not dare so much as look at it, for the latter is of much greater bulk.[59]

CHAP. 10. (10.)—THE BIRTH OF THE ELEPHANT, AND OTHER PARTICULARS RESPECTING IT.

The vulgar notion is, that the elephant goes with young ten years;[60] but, according to Aristotle, it is two years only. He says also that the female only bears once, and then a single young one; that they live two hundred years, and some of them as much as three hundred. The adult age of the elephant begins at the sixtieth year.[61] They are especially fond of water, and wander much about streams, and this although they are unable to swim, in consequence of their bulk.[62] They are particularly sensitive to cold, and that, indeed, is their greatest enemy. They are subject also to flatulency, and to looseness of the bowels, but

[58] Ælian, Anim. Nat. B. i. c. 38, states that the Romans employed this mode of terrifying the elephants brought against them by Pyrrhus.—B.

[59] That this was the general opinion among the ancients, we learn from Polybius, Ælian, Livy, Diodorus Siculus, and others. Cuvier remarks, that this may have been the case with the animals from Barbary, or the north of Africa, but that it is not so with those from the middle or south of that continent.—B.

[60] It has been stated, in a *Note* to chap. 5, that Mr. Corse found the period of the gestation of the elephant to be between twenty and twenty-one months.—B.

[61] Ælian, Anim. Nat. B. iv. c. 31, considers the age of sixty to be the prime period of their life, not the commencement of their prime.—B.

[62] This remark is incorrect; when the water is sufficiently deep, it swims with ease; and if the end of the trunk remains exposed to the atmosphere, it can dive below the surface, or swim with the body immersed.—B.

to no other kind of disease.[63] I find it stated, that on making them drink oil, any weapons which may happen to stick in their body will fall out; while, on the contrary, perspiration makes them the more readily adhere.[64] If they eat earth it is poison to them, unless indeed they have gradually become accustomed by repeatedly doing so. They also devour stones as well; but the trunks of trees are their most favourite food. They throw down, with a blow from their forehead, palms of exceeding height, and when lying on the ground, strip them of their fruit. They eat with the mouth, but they breathe, drink,[65] and smell with [the proboscis], which is not unaptly termed their "hand." They have the greatest aversion to the mouse of all animals,[66] and quite loathe their food, as it lies in the manger, if they perceive that it has been touched by one of those animals. They experience the greatest torture if they happen to swallow, while drinking, a horseleech, an animal which people are beginning, I find, to call almost universally a "blood-sucker."[67] The leech fastens upon the wind-pipe, and produces intolerable pain.

The skin of the back is extremely hard, that of the belly is softer. They are not covered with any kind of bristles, nor yet does the tail even furnish them with any protection from the annoyance of flies; for vast as these animals are, they suffer greatly from them. Their skin is reticulated, and invites these insects by the odour it exhales. Accordingly, when a swarm of them has settled on the skin, while extended and smooth, the elephant suddenly contracts it; and, in this way,

[63] Cuvier remarks, that this statement is incorrect. He dissected three elephants at Paris, and found that their death had been caused by inflammation of the lungs and chest. The species of elephant, which now inhabits Asia and Africa, is certainly not adapted to a cold climate; but the numerous remains of elephants found in the north of Asia, prove that a species formerly existed, capable of enduring great cold. It is to be observed, that this species was covered with a thick, furry coat of wool and hair.—B.

[64] This is from Aristotle, Hist. Anim. B. viii. c. 26; but it is scarcely necessary to remark, that it is without foundation. Ælian, Anim. Nat. B. ii. c. 18, refers to it, and explains it by supposing that the oil was not drunk, but applied externally; which is less improbable.—B.

[65] They suck the fluid into the cavity of the trunk, and bend the trunk into the mouth, where it is received and swallowed in the usual manner.—B.

[66] This dislike is confirmed by Cuvier.—B.

[67] "Sanguisuga."

the flies are crushed between the folds which are thus closed. This power serves them in place of tail, mane, and hair.[68]

Their teeth are very highly prized, and from them we obtain the most costly materials for forming the statues of the gods. Luxury has discovered even another recommendation in this animal, having found a particularly delicate flavour in the cartilaginous part of the trunk, for no other reason, in my belief, than because it fancies itself to be eating ivory.[69] Tusks of enormous size are constantly to be seen in the temples; but, in the extreme parts of Africa, on the confines of Æthiopia, they are employed as door-posts for houses; and Polybius informs us, on the authority of the petty king Gulussa,[70] that they are also employed as stakes in making fences for the folds of cattle.

CHAP. 11. (11.)—IN WHAT COUNTRIES THE ELEPHANT IS FOUND; THE ANTIPATHY OF THE ELEPHANT AND THE DRAGON.

Africa produces elephants, beyond the deserts of the Syrtes, and in Mauritania; they are found also in the countries of the Æthiopians and the Troglodytæ, as mentioned above.[71] But it is India that produces the largest,[72] as well as the dragon,[73] which is perpetually at war with the elephant, and is itself of so enormous a size, as easily to envelope the elephants with its folds, and encircle them in its coils. The contest is equally fatal to both; the elephant, vanquished, falls to the earth, and by its weight, crushes the dragon which is entwined around it.[74]

[68] Aristotle, Hist. Anim. B. ii. c. 1, remarks, that the elephant is the least hairy of all animals.—B.

[69] Cuvier remarks, that the trunk, being composed of a mixture of delicate muscular fibres and rich fat, would, when properly prepared, afford an article of food that might be very palatable.—B.

[70] We learn from Livy, B. xlii. c. 23, that Gulussa was the son of Massinissa.—B.

[71] In c. 8 of this Book.—B.

[72] We learn from Cuvier, that the elephants of Africa and Asia belong to different species, distinguished by the form of the head, and some peculiarities in the structure of the teeth.—B.

[73] By the term "dragon," we may suppose that Pliny refers to some of the great serpents which exist in hot climates, and are of such vast size, that they might perhaps be able to perform some of the exploits here ascribed to the dragon.—B.

[74] This account appears to be entirely without foundation.—B.

CHAP. 12. (12.)—THE SAGACITY OF THESE ANIMALS.

The sagacity which every animal exhibits in its own behalf is wonderful, but in these it is remarkably so. The dragon has much difficulty in climbing up to so great a height, and therefore, watching the road, which bears marks of their footsteps when going to feed, it darts down upon them from a lofty tree. The elephant knows that it is quite unable to struggle against the folds of the serpent, and so seeks for trees or rocks against which to rub itself. The dragon is on its guard against this, and tries to prevent it, by first of all confining the legs of the elephant with the folds of its tail; while the elephant, on the other hand, endeavours to disengage itself with its trunk. The dragon, however, thrusts its head into its nostrils, and thus, at the same moment, stops the breath and wounds the most tender parts. When it is met unexpectedly, the dragon raises itself up, faces its opponent, and flies more especially at the eyes; this is the reason why elephants are so often found blind, and worn to a skeleton with hunger and misery. What other cause can one assign for such mighty strifes as these, except that Nature is desirous, as it were, to make an exhibition for herself, in pitting such opponents against each other?

There is another story, too, told in relation to these combats —the blood of the elephant, it is said, is remarkably cold; for which reason, in the parching heats of summer,[75] it is sought by the dragon with remarkable avidity. It lies, therefore, coiled up and concealed in the rivers, in wait for the elephants, when they come to drink; upon which it darts out, fastens itself around the trunk, and then fixes its teeth behind the ear, that being the only place which the elephant cannot protect with the trunk. The dragons, it is said, are of such vast size, that they can swallow the whole of the blood; consequently, the elephant, being thus drained of its blood, falls to the earth exhausted; while the dragon, intoxicated with the draught, is crushed beneath it, and so shares its fate.

[75] The idea of the elephant's blood being cold, and sought after by the dragon, is, of course, without foundation; its blood being of the same temperature with that of other quadrupeds.—B.

CHAP. 13. (13.)—DRAGONS.

Æthiopia produces dragons, not so large as those of India, but still, twenty cubits in length.[76] The only thing that surprises me is, how Juba came to believe that they have crests.[77] The Æthiopians are known as the Asachæi, among whom they most abound; and we are told, that on those coasts four or five of them are found twisted and interlaced together like so many osiers in a hurdle, and thus setting sail, with their heads erect, they are borne along upon the waves, to find better sources of nourishment in Arabia.

CHAP. 14. (14.)—SERPENTS OF REMARKABLE SIZE.

Megasthenes informs us, that in India, serpents grow to such an immense size, as to swallow stags and bulls;[78] while Metrodorus says, that about the river Rhyndacus,[79] in Pontus, they seize and swallow the birds that are flying above them, however high and however rapid their flight.[80] It is a well-known fact, that during the Punic war, at the river Bagrada, a

[76] Cuvier states, that in India and America there are serpents of the genus boa, or python, thirty feet or more in length. He observes, that there are various species of aquatic reptiles in the seas of India, but that they never swim twisted together, or with their heads elevated. Ælian gives an account of the great size of the dragons in Æthiopia.—B.

[77] Cuvier remarks, that there are no serpents with crests on the head, and that Juba must have been thinking probably of some animal of the genus lacertus, when he made this statement. We may here remark, that the "basiliscus," or "king of serpents," was said by the poets to have a crown on its head, as denoting its kingly rank. See c. 33 of this *Book*.

[78] It is well known, that certain serpents have the jaws and fauces so constructed, that they will allow of the passage of an animal more bulky than themselves; they first crush its bones, and form it into a kind of pulp, and then pass it, without further change, into the stomach, where it is slowly dissolved by the gastric juices.—B.

[79] Supposed to have been in Mysia, or Bithynia, considerably to the west of Pontus.—B.

[80] This account is entirely without foundation. The same statement is made by Ælian, Anim. Nat. B. ii. c. 21, who probably copied it from Metrodorus. There are stories of the power which serpents possess of fascinating birds by the eye, but they are not improbably without foundation. —B. There is little doubt, however, that some serpents have the power, by some means or other, of fascinating the birds which they make their prey.

serpent one hundred and twenty feet in length was taken by the Roman army under Regulus, being besieged, like a fortress, by means of balistæ and other engines of war.[81] Its skin and jaws were preserved in a temple at Rome, down to the time of the Numantine war. The serpents which in Italy are known by the name of boa, render these accounts far from incredible, for they grow to such a vast size, that a child was found entire in the stomach of one of them, which was killed on the Vaticanian Hill during the reign of the Emperor Claudius.[82] These are nourished, in the first instance, with the milk of the cow, and from this they take their name.[83] As to the other animals, which have been of late repeatedly brought to Italy from all parts of the world, it is quite unnecessary to give any minute account of their form.

CHAP. 15. (15.)—THE ANIMALS OF SCYTHIA; THE BISON.

Scythia produces but very few animals, in consequence of the scarcity of shrubs. Germany, which lies close adjoining it, has not many animals, though it has some very fine kinds of wild oxen: the bison, which has a mane, and the urus,[84]

[81] This is referred to by many ancient writers; among others, by Livy, B. xviii.; Florus, B. ii. c. 2; Valerius Maximus, B. i. c. 8; and Aulus Gellius, B. vi. c. 3.—B.

[82] As Cuvier remarks, it is difficult to conceive what he means by the boa of Italy. At the present day, the longest Italian serpents are the Æsculapian serpent (a harmless animal), and the "Coluber quadrilineatus" of Linnæus, neither of which exceeds ten feet in length. The one here mentioned, was probably, as Cuvier suggests, one of the genuine boa or python species; but, as he says, where did it come from? and how did it get there?

[83] It is doubtful whether any one ever witnessed a serpent sucking a cow, but it seems to have been generally believed, and it is therefore probable, that the name of the animal was derived from this circumstance.—B. It is still believed of the common snake in some parts of this country. The reading "primo" has been preferred to "trimo," that adopted by Sillig.

[84] Cuvier remarks upon the two animals here mentioned, the bison and the urus, that Europe, at the present time, contains only one species of wild ox, the bison, or aurochs of the Germans, which still exists, although in small numbers only, in the forests of Lithuania. There are, however, fossil remains, in different parts of the north of Europe, of other animals of the same genus, which may have been the urus of Pliny, and not extinct when he wrote. Ajasson, vol. vi. pp. 413, 414; Lemaire, vol. iii. p. 365. The description by Cæsar of the urus of Gaul, Bell. Gall. B. vi. c. 26, seems to agree with the remains of the fossil animal, and may, therefore, be con-

possessed of remarkable strength and swiftness. To these, the vulgar, in their ignorance, have given the name of bubalus:[85] whereas, that animal is really produced in Africa, and rather bears a resemblance to the calf and the stag.

CHAP. 16.—THE ANIMALS OF THE NORTH; THE ELK, THE ACHLIS, AND THE BONASUS.

The North, too, produces herds of wild horses, as Africa and Asia do of wild asses;[86] there is, also, the elk, which strongly resembles our steers, except that it is distinguished by the length of the ears and of the neck. There is also the achlis,[87] which is produced in the island of Scandinavia;[88] it has never been seen in this city, although we have had descriptions of it from many persons; it is not unlike the elk, but has no joints in the hind leg. Hence, it never lies down, but reclines against a tree while it sleeps; it can only be taken by previously cutting into the tree, and thus laying a trap for it, as otherwise, it would escape through its swiftness. Its upper lip is so extremely large, for which reason it is obliged to go backwards when grazing; otherwise, by moving onwards, the lip would get doubled up. In Pæonia, it is said, there is a wild

sidered as confirming the opinion, that both animals were in existence when Pliny wrote.—B.

[85] This appears to have been a species of antelope, the Antelope bubalus of Linnæus. Cuvier observes, that Strabo places it among the gazelles, and Aristotle associates it with the stag and the deer, while Oppian's description of the urus, agrees with those of the gazelle.—B.

[86] We learn from various travellers, that there are troops of wild horses and asses in many parts of Tartary and the neighbouring countries; but it is doubtful whether they have proceeded from an original wild stock, or may not have been the produce of some individuals which had accidentally escaped from the domestic state.—B.

[87] No doubt Pliny has fallen into an error on this subject, and his elk and achlis are, in reality, the same animal. The description of the latter, for the most part, applies to the former, with the exception of the want of joints in the legs, which is entirely without foundation. Cæsar's account of the elk, Bell. Gall. B. vi. c. 27, agrees generally with Pliny's account of the achlis; he also says, that the legs of the alces are "without articulations and joints."

[88] The Romans had but a very imperfect knowledge of the Scandinavian peninsula. They supposed it to be surrounded by the ocean, and to be composed of many islands, which Ptolemy calls Scandiæ. Of these, the largest bore especially the name of Scandia or Scandinavia, by which name the modern Sweden was probably indicated. See B. iv. c. 30.

animal known as the bonasus ;[89] it has the mane of the horse, but is, in other respects, like the bull, with horns, however, so much bent inwards upon each other, as to be of no use for the purposes of combat. It has therefore to depend upon its flight, and, while in the act of flying, it sends forth its excrements, sometimes to a distance of even three jugera ;[90] the contact of which burns those who pursue the animal, just like a kind of fire.

CHAP. 17.—LIONS ; HOW THEY ARE PRODUCED.

It is a remarkable fact, that pards,[91] panthers, lions, and other animals of this kind, walk with the points of their nails concealed in a sheath in the body, lest they should be broken or blunted ; and that, when they run, their hooked claws are turned backwards, and are never extended, except in the act of seizing their prey.[92]

(16.) The noble appearance of the lion is more especially to be seen in that species which has the neck and shoulders covered with a mane, which is always acquired at the proper age by those produced from a lion ; while, on the other hand, those that are the offspring of the pard, are always without this distinction. The female also has no mane. The sexual passions of these animals are very violent, and render the male quite furious. This is especially the case in Africa, where, in consequence of the great scarcity of water, the wild beasts assemble in great numbers on the banks of a few rivers. This is also the reason why so many curious varieties of animals are produced

[89] Pliny's account is from Aristotle, Hist. Anim. B. ix. c. 45, but, as is often the case, with considerable exaggerations. Aristotle says, that these animals eject their excrements to a distance of four feet, and that it is of so acrid a nature, as to cause the hair of the dog to fall off. The word jugerum is generally used as a measure of superficial surface.—B.

[90] Pliny here renders the Greek πλέθρον, by "jugerum," which is ordinarily a measure of superficies. In the present case, therefore, it must mean a measure of *length*, of 100 Grecian, or 104 Roman feet.

[91] The pard of Pliny, as we shall find stated below, is the male of the panther.

[92] Cuvier remarks, that all the feline animals have retractile claws, drawn by an elastic ligament into a sheath, and protruded when required for the purpose of prehension. The sheath is formed of a duplicature or fold of the skin and the subjacent cellular membrane.—B.

there, the males and females of various species coupling promiscuously with each other.[93] Hence arose the saying, which was common in Greece even, that "Africa is always producing something new." The lion recognizes, by the peculiar odour of the pard, when the lioness has been unfaithful to him, and avenges himself with the greatest fury. Hence it is, that the female, when she has been guilty of a lapse, washes herself, or else follows the lion at a considerable distance. I find that it was a common belief, that the lioness is able to bear young no more than once, because, while delivering herself, she tears her womb with her claws.[94] Aristotle, however, gives a different account; a man of whom I think that I ought here to make some further mention, seeing that upon these subjects, I intend, in a great measure, to make him my guide. Alexander the Great, being inflamed with a strong desire to become acquainted with the natures of animals, entrusted the prosecution of this design to Aristotle, a man who held the highest rank in every branch of learning; for which purpose he placed under his command some thousands of men in every region of Asia and Greece, and comprising all those who followed the business of hunting, fowling, or fishing, or who had the care of parks, herds of cattle, the breeding of bees, fish-ponds, and aviaries, in order that no creature that was known to exist might escape his notice. By means of the information which he obtained from these persons, he was enabled to compose some fifty volumes, which are deservedly esteemed, on the subject of animals; of these I purpose to give an epitome, together with other facts with which Aristotle was unacquainted; and I beg the kind indulgence of my readers in their estimate of this work of mine, as by my aid they hastily travel through all the works of nature, and through the midst of subjects with which that most famous of all kings so ardently desired to be acquainted.

Aristotle then informs us, that the lioness, at the first birth, produces five whelps, and one less every succeeding year,

[93] What Pliny states here, is without foundation. He supposes that the leopard is the produce of a pard, or male panther, and the female of the lion; but this is incorrect, the leopard being a distinct species of animal.—B.

[94] Herodotus, B. iii. c. 108, gives the same account, which is refuted by Aristotle, Hist. Anim. B. vi. c. 31. Aulus Gellius, B. xiii. c. 7, refers to Herodotus, and the refutation by Aristotle.—B.

until, after having produced one only, she ceases to bear.[95] The young ones, when first born, are shapeless and extremely small in flesh, being no larger than a weasel; for six months they are scarcely able to walk,[96] and until they are two months old, they cannot move. Lions, he says, are found in Europe, but only between the rivers Achelous and Nestus; being much superior in strength to those which are produced in Africa or Syria.[97]

CHAP. 18.—THE DIFFERENT SPECIES OF LIONS.

There are two species of lions; in the one the body is shorter and more compact, and the mane more crisp and curly;[98] these are more timid than those with a longer body and straight hair, which, in fact, have no fear of wounds. The males raise the leg like the dog, when they pass their urine;[99] which has a most disagreeable odour, the same being the case too with their breath. They seldom drink, and only take food every other day;[1] when they have gorged themselves, they will sometimes

[95] The account here given of the lioness generally, Aristotle gives respecting the Syrian lioness only, Hist. Anim. B. vi. c. 31; there is some reason to believe that Aristotle is not correct in what he says. The account given by Ælian, Anim. Nat. B. iv. c. 33, is nearly the same with that of Pliny.—B.

[96] There is much in this account that is incorrect. It is well ascertained that the cubs of the lion are proportionably as large and as perfectly formed as the young of other animals that belong to the same family.—B.

[97] Herodotus, B. vii. c. 126, and Aristotle, Hist. Anim. B. viii. c. 28, give a similar account of the district in which lions are found.—B. Littré remarks, that this statement of Pliny is probably formed, as originally suggested by M. Maury, upon the fact, that the lions of Europe, as we learn from Herodotus, attacked the camels of Xerxes, on his invasion of Europe.

[98] Cuvier remarks, that we have no knowledge of the lion with curled hair, so frequently spoken of by the ancients. He suggests that there may have been a peculiar variety between the rivers Achelous and Nestus or Mestus, or perhaps, more probably, that it was altogether imaginary. He states also, that we no longer see lions without manes, but that Olivier had seen some at Bagdat. Aristotle, Hist. Anim. B. ix. c. 44, speaks of the two species of lions, and describes them nearly as Pliny has done.—B.

[99] According to Cuvier, this is not the case; the lion passes its urine just as the other animals of the same family. Pliny again refers to the odour of the lion's breath, in B. xi. c. 115.—B.

[1] The lion, like other carnivorous animals, is able to receive a large quantity of food into the stomach, and to remain for a proportionably longer

go without food for three days. They swallow their food whole, without mastication, so far as they are able; and when they have taken more than the stomach can possibly receive, they extract part of it by thrusting their claws into the throat; the same too, if, when full, they have occasion to take to flight. That they are very long-lived is proved by the fact, that many of them are found without teeth. Polybius,[2] the companion of Æmilianus, tells us, that when they become aged they will attack men, as they have no longer sufficient strength for the pursuit of wild beasts. It is then that they lay siege to the cities of Africa; and for this reason it was, that he, as well as Scipio, had seen some of them hung upon a cross; it being supposed that others, through dread of a similar punishment, might be deterred from committing the like outrages.

CHAP. 19.—THE PECULIAR CHARACTER OF THE LION.

The lion is the only one of all the wild beasts that shows mercy to the suppliant; after it has conquered, it will spare,[3] and when enraged, it will vent its fury rather upon men than women, and never upon children, unless when greatly pressed by hunger. It is the belief in Libya, that it fully understands the entreaties which are addressed to it. At all events, I have heard it asserted as a fact, that a female slave, who was returning from Gætulia, was attacked by a number of lions in the forests; upon which she summoned sufficient courage to address them, and said that she was a woman, a fugitive, helpless creature, that she implored the compassion of the most generous of animals, the one that has the command of all the others, and that she was a prey unworthy of their high repute —and by these means effectually soothed their ferocity. There

period without eating; but the statement respecting its taking food on alternate days, is without foundation. There does not appear to be any ground for the account of the mode by which it relieves the stomach when overcharged.—B.

[2] We learn from Cicero, Ep. Fam. B. v. Ep. 12, that Polybius wrote a history of the Numantine war, in which we may presume the account here referred to was contained.—B.

[3] Although these accounts of the generosity and clemency of the lion are in a great measure fabulous, still the accounts of those who have had the best opportunity of becoming acquainted with the character of different animals, agree in ascribing to it less ferocity and brutality, in proportion to its size and strength, than to other animals of the same family.—B.

are various opinions on this point, as to whether it is through some peculiar disposition of the animal, or merely by accident, that their fury is thus soothed by addressing them. As to what is alleged, too, about serpents, that they can be drawn from their holes by singing, and thus be made to yield themselves up to death, the truth or falsity of it has not by any means been satisfactorily ascertained.[4]

The tail of the lion gives indication of the state of his feelings, just as the ears do in the horse; for these are the distinguishing signs which Nature has given to each of the most generous of animals. Hence it is that, when pleased, the tail is without motion, and the animal fawns upon those who caress him; a thing, however, that very rarely happens, for his most frequent state is that of rage. He begins by beating the earth with his tail; and as he becomes more furious, he lashes his sides, as if trying to excite himself. His greatest strength is situate in the breast. From every wound that he makes, whether it is with his claws or his teeth, a black blood issues.[5] When his hunger is satisfied, he becomes harmless. The generous disposition of the lion is more especially manifested in time of danger; not only at the moment when, despising all weapons, he long defends himself solely by the terror which he inspires, and protests, as it were, that he is compelled thus to defend himself, but when he rises at last, not as though constrained by danger, but as if enraged by the mad folly of his adversaries. This, however, is a still more noble feature of his courage—however numerous the dogs and hunters may be that press upon him, as he makes his retreat he comes to a stand every now and then upon the level plain, while he is still in view, and scowls contemptuously upon them: but as soon as ever he has entered the thickets and dense forests, he scours away at the swiftest possible pace, as though aware that the place itself will shelter his shame. When in pursuit, the lion advances with a leap, but he does not do so when in flight. When wounded, he discovers, with wonderful sagacity, the person who struck the blow, and will find him out, however great may have been the

[4] In various countries, and more especially in Egypt, the magicians profess to charm serpents by incantations; and it appears that they are able to acquire some power over them by imitating their natural cries. Cuvier informs us, that Geoffroi St. Hilaire had witnessed the fact, and was himself able to produce the effect.—B.

[5] Aristotle says, a matter of a *yellow* colour, ἰχῶρες ὠχροὶ.

multitude of his pursuers. If a person has thrown a dart at him, but has failed to inflict a wound, the animal seizes him, whirls him round and throws him to the ground, but without wounding him. When the lioness is defending her whelps, it is said that she fixes her eyes steadily on the ground, that she may not be frightened at the spears of the hunters. In all other respects, these animals are equally free from deceit and suspicion. They never look at an object obliquely, and they dislike being looked at themselves in such a manner. It is generally believed, that, when the lion is dying, he bites at the earth, and sheds tears at his fate.[6] Powerful, however, and fierce as this animal is, he is terrified by the motion of wheels or of an empty chariot, and still more on seeing the crest or hearing the crowing of a cock;[7] but most of all, is he afraid of fire. The only malady to which the lion is subject, is loss of appetite; this, however, is cured by putting insults upon him, by means of the pranks of monkeys placed about him, a thing which rouses his anger; immediately he tastes their blood, he is relieved.

CHAP. 20.—WHO IT WAS THAT FIRST INTRODUCED COMBATS OF LIONS AT ROME, AND WHO HAS BROUGHT TOGETHER THE GREATEST NUMBER OF LIONS FOR THAT PURPOSE.

Q. Scævola, the son of P. Scævola, when he was curule ædile, was the first to exhibit at Rome a combat of a number of lions; and L. Sylla, who was afterwards Dictator, during his prætorship, gave the spectacle of a fight of one hundred lions with manes.[8] After him, Pompeius Magnus exhibited six hundred lions in the Circus, three hundred and fifteen of which had manes; Cæsar, the Dictator, exhibited four hundred.

[6] Probably, there is no foundation for this opinion: it does not appear that any animal, except man, has the faculty of weeping, *i. e.* of shedding tears, in connection with a peculiar condition of mind and feeling.—B. But query as to the horse. See c. 64 of the present Book, and the Introduction to vol. i. p. xvii.

[7] This supposed fear is without foundation, but appears to have been a generally received opinion, as it is referred to by Lucretius, B. iv. l. 714—725.—B.

[8] Seneca gives an account of this exhibition; he says that the lions were turned loose into the Circus, and that spearmen were sent by king Bocchus, who killed them with darts. Sylla was prætor A.U.C. 661, B.C. 92.—B.

CHAP. 21.—WONDERFUL FEATS PERFORMED BY LIONS.

It was formerly a very difficult matter to catch the lion, and it was mostly done by means of pit-falls. In the reign, however, of the Emperor Claudius, accident disclosed a method which appears almost disgraceful to the name of such an animal; a Gætulian shepherd stopped a lion, that was rushing furiously upon him, by merely throwing his cloak[9] over the animal; a circumstance which afterwards afforded an exhibition in the arena of the Circus, when the frantic fury of the animal was paralyzed in a manner almost incredible by a light covering being thrown over its head, so much so, that it was put into chains without the least resistance; we must conclude, therefore, that all its strength lies in its eyes. This circumstance renders what was done by Lysimachus[10] less wonderful, who strangled a lion, with which he had been shut up by command of Alexander.[11]

Antony subjected lions to the yoke, and was the first at Rome to harness them to his chariot;[12] and this during the civil war, after the battle on the plains of Pharsalia; not, indeed, without a kind of ominous presage, a prodigy that foretold at the time how that generous spirits were about to be subdued. But to have himself drawn along in this manner, in company with the actress Cytheris,[13] was a thing that

[9] "Sagum." This was the cloak worn by the Roman soldiers and inferior officers, in contradistinction to the "paludamentum" of the general and superior officers. It was open in the front, and usually, though not always, fastened across the shoulders by a clasp. It was thick, and made of wool.

[10] This story is given also by Plutarch, in the life of Demetrius. Lysimachus was a Macedonian by birth, but son of Agathocles, a serf of Thessaly. Through his great courage, he became one of the body-guard of Alexander. Quintus Curtius tells us that, when hunting in Syria, he killed a lion of immense size single-handed, though not without receiving severe wounds in the contest. The same author looks upon this as the probable origin of the story here referred to by Pliny.

[11] This is mentioned by many ancient authors; by Plutarch, Pausanias, Seneca, Justin, and by Quintus Curtius, who thinks that the account usually given is fabulous.—B.

[12] Related by Plutarch, as among the acts of extravagance and folly, committed by Antony, which gave much disgust to the grave and respectable citizens of Rome.—B.

[13] A famous courtezan of the time of Cicero; being originally the freed-

surpassed even the most monstrous spectacles that were to be seen at that calamitous period. It is said that Hanno, one of the most illustrious of the Carthaginians, was the first who ventured to touch the lion with the hand, and to exhibit it in a tame state. It was on this account that he was banished; for it was supposed, that a man so talented and so ingenious would have it in his power to persuade the people to anything, and it was looked upon as unsafe to trust the liberties of the country to one who had so eminently triumphed over even ferocity itself. There are some fortuitous occurrences cited also, which have given occasion to these animals to display their natural clemency. Mentor, a native of Syracuse, was met in Syria by a lion, who rolled before him in a suppliant manner; though smitten with fear and desirous to escape, the wild beast on every side opposed his flight, and licked his feet with a fawning air. Upon this, Mentor observed on the paw of the lion a swelling and a wound; from which, after extracting a splinter, he relieved the creature's pain.[14] There is a picture at Syracuse, which bears witness to the truth of this transaction.

In the same manner, too, Elpis, a native of Samos, on landing from a vessel on the coast of Africa, observed a lion near the beach, opening his mouth in a threatening manner; upon which he climbed a tree, in the hope of escaping, while, at the same time, he invoked the aid of Father Liber; for it is the appropriate time for invocations when there is no room left for hope. The wild beast did not pursue him as he fled, although he might easily have done so; but, lying down at the foot of the tree, by the open mouth which had caused so much terror, tried to excite his compassion. A bone, while he was devouring his food with too great avidity, had stuck fast between his teeth, and he was perishing with hunger; such being the punishment inflicted upon him by his own weapons, every now and then he would look up and supplicate him, as it were, with mute entreaties. Elpis,[15] not wishing to risk trusting himself to

woman and mistress of Volumnius Eutrapelus, and then successively the mistress of Antony and the poet Gallus, who mentioned her in his poems under the name of Lycoris; she did not, however, continue faithful to him.

[14] Aulus Gellius, B. v. c. 14, and Ælian, Anim. Nat. B. viii. c. 48, relate a similar anecdote of Androclus or Androcles, who extracted a thorn from the foot of a lion.—B.

[15] The text is in a state of extreme confusion here, and so hopelessly man-

so formidable a beast, remained stationary for some time, more at last from astonishment than from fear. At length, however, he descended from the tree and extracted the bone, the lion in the meanwhile extending his head, and aiding in the operation as far as it was necessary for him to do. The story goes on to say, that as long as the vessel remained off that coast, the lion showed his sense of gratitude by bringing whatever he had chanced to procure in the chase. In memory of this circumstance, Elpis consecrated a temple at Samos to Father Liber, which the Greeks, from the circumstance above related, called "the temple κεχηνότος Διονύσου," or "of the open-mouthed Bacchus." Can we wonder, after this, that the wild beasts should be able to recognize the footsteps of man,[16] when of him alone of all animals they even hope for aid? For why should they not have recourse to others for assistance? Or how is it that they know that the hand of man has power to heal them? Unless, perhaps, it is that the violence of pain can force wild beasts even to risk every thing to obtain relief.

(17.) Demetrius, the natural philosopher, relates an equally remarkable instance, in relation to a panther.[17] The animal was lying in the middle of the road, waiting for some one to pass that way, when he was suddenly perceived by the father of one

gled, that we can only guess at the sense of it. In Sillig's edition, which is generally followed, it runs to this effect: "Neque profugienti, cum potuisset, fera institerat et procumbens ad arborem hiatu quo terruerat miserationem quærebat. Os morsu avidiore inhæserat dentibus cruciabatque inedia, tum pœna in ipsis ejus telis suspectantem ac velut mutis precibus orantem, dum fortuitu fidens non est contra feram; multoque diutius miraculo quam metu cessatum est." Thus paraphrased by Sillig, who devotes a long Note to it: "The lion, therefore, being tormented by hunger and excessive pain, and thus punishing himself for his greediness in his own weapons (his teeth), looked up, and besought Elpis with silent prayers, as it were, not, as he trusted to the protection fortuitously given by the branches, to show himself distrustful of a wild beast."

[16] This remark refers to what Pliny has related in c. 5, respecting the sagacity of the elephant.—B.

[17] Cuvier remarks, that this "panthera" is not the same as the πάνθηρ of the Greeks. From the description of its spots and other circumstances, he thinks that it was one of the African animals, known by modern naturalists as the leopard, which appear to have been confounded by the Romans with the panther. The term "leopardus" is not met with until after the age of Pliny; it was supposed to be the produce of the pardus, or male panther, and the lioness.—B.

Philinus, an ardent lover of wisdom.[18] Seized with fear, he immediately began to retreat; while the beast rolled itself before him, evidently with the desire of caressing him, at the same time manifesting signs of grief, which could not be misunderstood in a panther even. The animal had young ones, which had happened to fall into a pit at some distance from the place. The first dictates of compassion banished all fear, and the next prompted him to assist the animal. He accordingly followed her, as she gently drew him on by fixing her claws in his garment; and as soon as he discovered what was the cause of her grief and the price of his own safety, he took the whelps out of the pit, and they followed her to the end of the desert; whither he was escorted by her, frisking with joy and gladness, in order that she might more appropriately testify how grateful she was, and how little she had given him in return; a mode of acting which is but rarely found, among men even.

CHAP. 22.—A MAN RECOGNIZED AND SAVED BY A DRAGON.

Facts such as these induce us to give some credit to what Democritus relates, who says that a man, called Thoas, was preserved in Arcadia by a dragon.[19] When a boy, he had become much attached to it, and had reared it very tenderly; but his father, being alarmed at the nature and monstrous size of the reptile, had taken and left it in the desert. Thoas being here attacked by some robbers who lay in ambush, he was delivered from them by the dragon, which recognized his voice and came to his assistance. But as to what has been said respecting infants that have been exposed and nourished by the milk of wild beasts,[20] as in the case of the founders of our city by a wolf, I am disposed to attribute such cases as these rather to the greatness of the destinies which have to be fulfilled, than to any peculiarity in the nature of the animals themselves.

[18] "Assectatoris sapientiæ"—"A follower of wisdom;" meaning a "philosopher."

[19] This word here signifies, simply, a "serpent."

[20] Ælian, Var. Hist. B. xiii. c. i., relates an occurrence of this kind, about Atalanta, and Justin, B. xliv. c. 4, about Habis, a king of Spain. As to the account of Romulus having been suckled by a wolf, it was generally regarded as a legendary tale by the Romans themselves. See Livy, B. i. c. 4, and Dionysius of Halicarnassus, Antiq. Rom. B. i.—B.

CHAP. 23.—PANTHERS.

The panther and the tiger are nearly the only animals that are remarkable for a skin distinguished by the variety of its spots;[21] whereas others have them of a single colour, appropriate to each species. The lions of Syria alone are black. The spots of the panther are like small eyes, upon a white ground. It is said that all quadrupeds are attracted in a most wonderful manner by their odour,[22] while they are terrified by the fierceness of their aspect; for which reason the creature conceals its head, and then seizes upon the animals that are attracted to it by the sweetness of the odour. It is said by some, that the panther has, on the shoulder, a spot which bears the form of the moon; and that, like it, it regularly increases to full, and then diminishes to a crescent. At present, we apply the general names of varia[23] and pard, (which last belongs to the males), to all the numerous species of this animal, which is very common in Africa and Syria.[24] Some writers distinguish the panther, as being remarkable for its whiteness: but as yet I have not observed any other difference between them.

CHAP. 24.—THE DECREE OF THE SENATE, AND LAWS RESPECTING AFRICAN ANIMALS; WHO FIRST BROUGHT THEM TO ROME, AND WHO BROUGHT THE GREATEST NUMBER OF THEM.

There was an ancient decree of the senate, which prohibited

[21] Pliny, in B. xiii. c. 15, speaks of "tables of tiger and panther pattern," as articles of ornamental furniture among the Romans, named from the peculiar patterns of the veins in the citrus wood, of which they were formed.—B.

[22] This, though mentioned by Aristotle, Hist. Anim. B. ix. c. 8, is probably incorrect; and still more the addition made by Ælian, Anim. Nat. B. v. c. 40, that this odour is grateful to man. It has, however, induced some to conjecture, that the animal here described might be the civet; but the description given is inapplicable to that animal; nor, indeed, does the civet appear to have been known to the ancients. For further information, see the remarks of Cuvier, Ajasson, vol. vi. p. 420, and Lemaire, vol. iii. p. 386. Pliny, in B. xxi. c. 18, says that no animal, except the panther, has any odour.—B.

[23] Meaning the "spotted" or "parti-coloured" female.

[24] Xenophon, in his Cynegeticon, says, that the pard is found on Mount Pangæus, in Macedonia; the truth of which is denied by Aristotle, who says that it is not to be found in Europe.

animals being imported from Africa into Italy; but Cn. Aufidius, the tribune of the people,[25] procured a law repealing this, which allowed of their being brought over for the games of the Circus. Scaurus, in his ædileship,[26] was the first who sent over the parti-coloured kind, one hundred and fifty in the whole; after which, Pompeius Magnus sent four hundred and ten, and the late Emperor Augustus four hundred and twenty.

CHAP. 25.—TIGERS: WHEN FIRST SEEN AT ROME; THEIR NATURE.

The same emperor was the first person who exhibited at Rome a tame tiger[27] on the stage.[28] This was in the consulship of Q. Tubero and Fabius Maximus,[29] at the dedication of the theatre of Marcellus, on the fourth day before the nones of May: the late Emperor Claudius exhibited four at one time.[30]

(18.) Hyrcania and India produce the tiger, an animal of tremendous swiftness, a quality which is more especially tested when we deprive it of all its whelps, which are always very numerous. They are seized by the hunter, who lies in wait for them, being provided with the fleetest horse he can possibly obtain, and which he frequently changes for a fresh one. As soon as the female finds her lair empty—for the male takes no care whatever of his offspring—headlong she darts forth, and traces them by the smell. Her approach is made known by her cries, upon which the hunter throws down one of the

[25] He was tribune A.U.C. 670. Cicero says, Tusc. Quæst. B. iv. c. 39, that Aufidius, although blind, was eminent for his political and literary talents. He wrote a History of Greece.—B.

[26] 4th of May, A.U.C. 696.—B.

[27] See also Suetonius, Life of Augustus. Martial, Spect. Ep. 18, relates a circumstance respecting a tame tiger, which occurrence appears to have taken place at the time when he wrote. Heliogabalus yoked tigers to his car, in imitation of Bacchus, as we are informed by Lampridius.

[28] "In cavea." In the arena or centre of the amphitheatre. This word often signifies, however, the place where the senators, equites, and plebeians, sat in the theatre: and in the later writers it is used to signify the whole amphitheatre.

[29] A.U.C. 742.—B.

[30] In the winter of 1809 and 1810, an antique mosaic pavement was discovered at Rome, in which four tigers are represented, and which, it has been supposed, might possibly have some reference to those exhibited by Claudius. Martial, who lived a little after Pliny, speaks of tigers exhibited at Rome, by Domitian, in considerable numbers. Epig. B. viii. Ep. 26.—B.

whelps; this she snatches up with her teeth, and more swift, even, under the weight, returns to her lair, and then again sets out in pursuit; and this she continues to do, until the hunter has reached his vessel, while the animal vainly vents her fury upon the shore.

CHAP. 26.—CAMELS:[31] THE DIFFERENT KINDS.

Camels are found feeding in herds in the East. Of these there are two different kinds, those of Bactria and those of Arabia;[32] the former kind having two humps on the back, and the latter only one; they have also another hump under the breast, by means of which they support themselves when reclining. Both of these species, like the ox, have no teeth in the upper jaw.[33] They are all of them employed as beasts of burthen, in carrying loads on the back, and they answer the purpose of cavalry in battle. Their speed is the same with that of the horse, but their power of holding out in this respect is proportioned in each to its natural strength: it will never go beyond its accustomed distance, nor will it receive more than its usual load. The camel has a natural antipathy to the horse.[34] It can endure thirst for four days even, and when it has the opportunity of obtaining water, it drinks, as it were, both for past and future thirst, having first taken care to trouble the water by trampling in it; without doing which, it would find no pleasure in drinking. They live fifty years, some indeed as much as one hundred. These animals, too, are liable to fits of frenzy.[35] A peculiar mode of castrating them, and the females, even, when required for the purposes of war, has been discovered; it renders them more courageous, by the destruction of all sexual feelings.

[31] Cuvier remarks, that the account given of the two kinds of camels, and his description generally, is correct, with the exception of their antipathy to the horse. The caravans, he says, present a constant mixture of the two animals, and even, in Arabia, the young foals are occasionally suckled by the female camel.—B.

[32] We have a similar statement in Aristotle, Hist. Anim. B. ii. c. 1. Indeed, the account here given generally, is taken from him.—B.

[33] See B. xi. c. 62.

[34] Mentioned by Aristotle, Hist. Anim. B. vi. c. 17, and by Ælian, Anim. Nat. B. iii. c. 7; but, as stated above, it is incorrect.—B.

[35] At the time of rutting, according to Solinus.

CHAP. 27.—THE CAMELEOPARD; WHEN IT WAS FIRST SEEN AT ROME.

There are two other[36] animals, which have some resemblance to the camel. One of these is called, by the Æthiopians, the nabun.[37] It has a neck like that of the horse, feet and legs like those of the ox, a head like that of the camel, and is covered with white spots upon a red ground; from which peculiarities it has been called the cameleopard.[38] It was first seen at Rome in the Circensian games held by Cæsar, the Dictator.[39] Since that time too, it has been occasionally seen. It is more remarkable for the singularity of its appearance than for its fierceness; for which reason it has obtained the name of the wild sheep.[40]

CHAP. 28. (19.)—THE CHAMA, AND THE CEPUS.

It was at the games of Pompeius Magnus that the chama[41]

[36] He speaks here of only *one* of the animals which resemble the camel; the giraffe, namely. The other, which he for the present omits, is the ostrich.

[37] The description of the giraffe, here given, is sufficiently correct, but we have a more minute account of it by Dion Cassius, B. xliii. In the time of the Emperor Gordian, ten of these animals were exhibited at Rome at once; a remarkable fact, when we bear in mind that so few have been imported into Europe for many centuries past. The giraffe is figured in the mosaic at Prænestè, and under it is inscribed its name, nabi.—B. It has been found that it is unable to bear the winters of Europe.

[38] Its form being like that of the camel, while its spots resemble those of the leopard. Horace refers to it, when speaking of an object calculated to excite the vulgar gaze; "Diversum confusa genus panthera camelo"—"The race of the panther mingled with the camel," Ep. B. ii.; Ep. i. l. 195.

[39] According to Dion Cassius, B. xliii., these games were celebrated A.U.C. 708.—B.

[40] This comparison can only be employed to indicate the mild nature of the giraffe.—B.

[41] In the older editions, the names here given to this animal were "chaus" and "ruphius;" the alteration was made by Hardouin from a MS. in the Royal Library of Paris, which he deemed of high authority, and has been adopted by all the modern editors. There is considerable doubt respecting the animal here designated by the name of "chama;" it appears to have been an inhabitant of Gaul, and in c. 34, is styled "lupus cervarius;" but the account does not enable us to identify it with any

was first exhibited; an animal called rufius by the Gauls; having the figure of a wolf, with the spots of the pard. There were also exhibited some animals from Æthiopia, which they called by the Greek name, κήποι,[42] the hinder extremities of which resembled the human feet and legs, while the fore-feet were like hands. These animals have not been seen at Rome since that time.

CHAP. 29. (20.)—THE RHINOCEROS.

At the same games the rhinoceros was also exhibited, an animal which has a single horn projecting from the nose;[43] it has been frequently seen since then. This too is another natural-born enemy of the elephant.[44] It prepares itself for the combat by sharpening its horn against the rocks; and in fighting directs it chiefly against the belly of its adversary, which it knows to be the softest part. The two animals are of equal length, but the legs of the rhinoceros are much the shorter: its skin is the colour of box-wood.

CHAP. 30. (21.)—THE LYNX, THE SPHINX, THE CROCOTTA, AND THE MONKEY.

Æthiopia produces the lynx[45] in abundance, and the sphinx,

animal known to exist in that country.—B. It is generally supposed to have been a species of lynx.

[42] No doubt this description refers to some species of the monkey tribe, but it is uncertain to what one in particular. Its having been seen only once at Rome, shows that it was not of the most common kind; Cuvier, however, thinks it probable, that Pliny may have been incorrect in this; he supposes that it was the "Simia sphinx" of Linnæus, Lem. vol. iii. p. 395. According to Aristotle, Hist. Anim. B. ii. c. 8, κῆβος is merely a monkey with a tail; see also the account of Ælian, Anim. Nat. B. xvii. c. 8.—B.

[43] Cuvier says, that this was the single-horned rhinoceros of India. The commentators have been at a loss to reconcile this description with the Epigram of Martial, Spect. Ep. xxii., where he speaks of the rhinoceros exhibited by Domitian, as having two horns. It has been proved that this latter was of the two-horned species, by the medals of that emperor, now in existence. Martial, Spect. Ep. ix., seems also to have been acquainted with the single-horned species. That with two horns is mentioned by Pausanias as the Æthiopian bull. We learn from modern naturalists, that the two-horned species is a native of the southern parts of Africa, while that with one horn is from Asia.—B.

[44] The other enemy is the dragon, as described in c. 11 and 12 of the present Book.—B.

[45] According to Cuvier, the lynx of Pliny is the Felis caracal of Lin-

which has brown hair and two mammæ on the breast,[46] as well as many monstrous kinds of a similar nature; horses with wings, and armed with horns, which are called pegasi;[47] the crocotta, an animal which looks as though it had been produced by the union of the wolf and the dog,[48] for it can break any thing with its teeth, and instantly on swallowing it digest it with the stomach; monkeys, too, with black heads, the hair of the ass, and a voice quite unlike that of any other animal.[49] There are oxen, too, like those of India, some with one horn, and others with three; the leucrocotta, a wild beast of extraordinary swiftness, the size of the wild ass, with the legs of a stag, the neck, tail, and breast of a lion, the head of a badger, a cloven hoof, the mouth slit up as far as the ears, and one continuous bone instead of teeth;[50] it is said, too, that this animal can imitate the human voice. Among the same people, there is also found an animal called eale; it is the size of the river-horse, has the tail of the elephant, and is of a black or tawny

næus: it is common in many parts of Asia and Africa, in the retired forest districts, and still exists in the Pyrenees and the mountains of Naples.—B.

[46] As far as the accounts of the sphinx are to be regarded as not entirely fabulous, we must suppose it to have originated in some species of the monkey tribe; perhaps the Simia troglodytes or chimpanzé.—B.

[47] Of course the winged horse is an imaginary being, nor does it appear what is the origin of the fable; the horns are an unusual appendage to the pegasus.—B. The pegasus and the rhinoceros together may have given rise to that fabulous animal, the unicorn. See, however, the Monoceros, mentioned in c. 31.

[48] Although a hybrid animal is produced by the union of the wolf and the dog, it does not form a permanent species. But, as Cuvier remarks, by the insertion of "velut," Pliny seems to imply that the crocotta unites the physical properties of the two animals. Ctesias, Indic. c. 32, gives an account of the cynolycus, or "dog-wolf," from which Pliny seems to have taken his crocotta.—B.

[49] It does not seem possible to determine what species of monkey is here designated; it is most probable that he himself had no accurate knowledge.—B.

[50] We may here refer to the judicious remarks of Cuvier, Ajasson, vol. vi. pp. 427, 428, and Lemaire, vol. iii. p. 399, on the leucrocotta. It seems impossible to identify Pliny's description with any known animal, and it is not unlikely that he has confused the accounts of authors who were speaking of different animals. Some of the characteristics of the leucrocotta agree with those of the Indian antelope, while others seem to resemble those of the hyæna.—B.

colour.[51] It has also the jaws of the wild boar, and horns that are moveable, and more than a cubit in length, so that, in fighting, it can employ them alternately, and vary their position by presenting them directly or obliquely, according as necessity may dictate. But the wild bulls which this country produces are the fiercest of all; they are larger than our domestic bull, and exceed all the others in swiftness; are of a tawny colour, with azure eyes, and the hair turned the contrary way; while the jaws open as far as the ears, and the horns are as moveable as those of the eale. The hide of this animal is as hard as flint, and effectually resists all wounds. These creatures pursue all the other wild beasts, while they themselves can only be taken in pitfalls, where they always perish from excess of rage. Ctesias informs us, that among these same Æthiopians, there is an animal found, which he calls the mantichora;[52] it has a triple row of teeth, which fit into each other like those of a comb, the face and ears of a man, and azure eyes, is of the colour of blood, has the body of the lion, and a tail ending in a sting, like that of the scorpion. Its voice resembles the union of the sound of the flute and the trumpet; it is of excessive swiftness, and is particularly fond of human flesh.

CHAP. 31.—THE TERRESTRIAL ANIMALS OF INDIA.

There are in India oxen also with solid hoofs[53] and a single horn;[54] and a wild beast called the axis, which has a skin

[51] Perhaps the eale may have been the two-horned rhinoceros, as some naturalists say that there is a degree of mobility in the horns of that animal; the same observation has been made with respect to the wild or forest bulls, the description of which animal, in Pliny, is probably from Diodorus Siculus.—B.

[52] This description of the mantichora appears to be taken from the Indica of Ctesias; it has been also adopted by Aristotle and Ælian, but they have qualified their accounts by some expressions of doubt, which are omitted by Pliny. It has been conjectured, that Ctesias took his description from the hieroglyphic figures in his time, probably common in the East, and still found in the ruins of the Assyrian and Persian cities, Nineveh and Persepolis, for instance.—B.

[53] Probably meaning, "not cloven."

[54] Cuvier conjectures, that this is from Ctesias, and says, that a similar animal is to be seen on one of the sculptures of Persepolis.—B.

like that of a fawn, but with numerous spots on it, and whiter;[55] this animal is looked upon as sacred to Bacchus. The Orsæan Indians hunt down a kind of ape, which has the body white[56] all over; as well as a very fierce animal called the monoceros,[57] which has the head of the stag, the feet of the elephant, and the tail of the boar, while the rest of the body is like that of the horse; it makes a deep lowing noise, and has a single black horn, which projects from the middle of its forehead, two cubits in length.[58] This animal, it is said, cannot be taken alive.

CHAP. 32.—THE ANIMALS OF ÆTHIOPIA; A WILD BEAST WHICH KILLS WITH ITS EYE.

Among the Hesperian Æthiopians is the fountain of Nigris, by many, supposed to be the head of the Nile. I have already mentioned the arguments by which this opinion is supported.[59] Near this fountain, there is found a wild beast, which is called the catoblepas;[60] an animal of moderate size, and in other respects sluggish in the movement of the rest of its limbs; its head is remarkably heavy, and it only carries it with the greatest difficulty, being always bent down towards the earth. Were it not for this circumstance, it would prove the destruction of

[55] Probably the stag of the Ganges, the "Cervus axis" of Linnæus; but if so, Pliny has omitted to mention the horns.—B.

[56] White apes are now unknown, as a distinct species, but individuals are occasionally found nearly without colour.—B.

[57] The "one-horned," or the unicorn.

[58] We have a discussion by Cuvier, respecting the existence of the unicorn, or of any animal similar to that here described, with a single horn. He remarks, that the only single-horned quadruped of which we have any certain knowledge, is the rhinoceros, and that the only horns which have been discovered, and which can have been single horns, belong to it. There are five animals mentioned by the ancients, as having single horns, the Indian ass, the single-horned horse, the single-horned ox, the monoceros, described in the text, and the oryx of Africa, which Pliny speaks of in c. 79 of this Book, and in B. xi. c. 106. There are many curious accounts given by travellers of acknowledged veracity, respecting animals seen in the more remote parts of Asia and Africa, answering to the description of the unicorn, and there are representations of the same in ancient sculptures; but they do not amount to that kind of evidence which can at all supply the place of direct proof.—B.

[59] These will be found in B. v. c. 10.

[60] From καταβλέπω, "to look downwards."

the human race; for all who behold its eyes, fall dead upon the spot.[61]

CHAP. 33.—THE SERPENTS CALLED BASILISKS.

There is the same power also in the serpent called the basilisk.[62] It is produced in the province of Cyrene, being not more than twelve fingers in length. It has a white spot on the head, strongly resembling a sort of a diadem.[63] When it hisses, all the other serpents fly from it: and it does not advance its body, like the others, by a succession of folds, but moves along upright and erect upon the middle. It destroys all shrubs, not only by its contact, but those even that it has breathed upon; it burns up all the grass too, and breaks the stones, so tremendous is its noxious influence. It was formerly a general belief that if a man on horseback killed one of these animals with a spear, the poison would run up the weapon and kill, not only the rider, but the horse as well. To this dreadful monster the effluvium of the weasel is fatal, a thing that has been tried with success, for kings have often desired to see its body when killed; so true is it that it has pleased Nature that there should be nothing without its antidote. The animal is thrown into the hole of the basilisk, which is easily known from the soil around it being infected. The weasel destroys the basilisk by its odour, but dies itself in this struggle of nature against its own self.[64]

CHAP. 34. (22.)—WOLVES; THE ORIGIN OF THE STORY OF VERSIPELLIS.

In Italy also it is believed that there is a noxious influence in the eye of a wolf; it is supposed that it will instantly take

[61] Ælian describes this animal more in detail, Anim. Nat. B. vii. c. 5. Cuvier thinks it probable that it is the Antelope gnu; he remarks, that it has a very peculiar and mournful appearance; Ajasson, vol. vi. p. 435; Lemaire, vol. iii. p. 405.—B.

[62] This account of the basilisk's eye, like that of the catoblepas, is entirely devoid of foundation.—B.

[63] Many species have certain marks on the head, which were supposed to resemble a crown.—B.

[64] There is probably no foundation for this account of the action of the effluvium of the weasel upon the basilisk or any other species of serpent.—B.

away the voice of a man,[64*] if it is the first to see him. Africa and Egypt produce wolves of a sluggish and stunted nature;[65] those of the colder climates are fierce and savage. That men have been turned into wolves, and again restored to their original form,[66] we must confidently look upon as untrue, unless, indeed, we are ready to believe all the tales, which, for so many ages, have been found to be fabulous. But, as the belief of it has become so firmly fixed in the minds of the common people, as to have caused the term "Versipellis"[67] to be used as a common form of imprecation, I will here point out its origin. Euanthes, a Grecian author of no mean reputation, informs us that the Arcadians assert that a member of the family of one Anthus is chosen by lot, and then taken to a certain lake in that district, where, after suspending his clothes on an oak, he swims across the water and goes away into the desert, where he is changed into a wolf and associates with other animals of the same species for a space of nine years. If he has kept himself from beholding a man during the whole of that time, he returns to the same lake, and, after swimming across it, resumes his original form, only with the addition of nine years in age to his former appearance. To this Fabius[68] adds, that he takes his former clothes as well. It is really wonderful to what a length the credulity[69] of

[64*] Hence the proverbial expression applied to a person who is suddenly silent upon the entrance of another; "Lupus est tibi visus."

[65] Cuvier says, that the wolves of Africa are of the ordinary size, and conjectures that this remark probably applies to the chakale, or "Canis aureus" of Linnæus, which is of the colour of the wolf, and the size of the fox, and is common throughout all Africa.—B.

[66] The opinion that men were converted into wolves by enchantment, or a preternatural agency, was at one time so generally received, as to have led to judicial processes, and the condemnation of the supposed criminal. —B. To the relator of the above story that men lose their voice on seeing a wolf, Scaliger wishes as many blows as at different times he had seen a wolf without losing his voice.

[67] This literally means "changing the skin;" it was applied by some ancient medical writers to a peculiar form of insanity, where the patient conceives himself changed into a wolf, and named λυκανθρώπια, "lycanthropy." The word appears to have been in common use among the Romans, and to have been applied by them to any one who had undergone a remarkable change in his character and habits; in this sense it is used by Plautus, Amphitryon, Prol. l. 123, and Bacchides, A. iv. sc. 4, l. 12.—B.

[68] It is not known who is here referred to; it is not probable that it is Fabius Pictor, the Roman historian.—B.

[69] It is rather curious to find Pliny censuring others for *credulity*; indeed

the Greeks will go! There is no falsehood, if ever so barefaced, to which some of them cannot be found to bear testimony.

So too, Agriopas, who wrote the Olympionics,[70] informs us that Demænetus, the Parrhasian, during a sacrifice of human victims, which the Arcadians were offering up to the Lycæan[71] Jupiter, tasted the entrails of a boy who had been slaughtered; upon which he was turned into a wolf, but, ten years afterwards, was restored to his original shape and his calling of an athlete, and returned victorious in the pugilistic contests at the Olympic games.

It is also commonly supposed, that the tail of this animal contains a small lock of hair, which possesses an amatory power; and that when the creature is caught, this hair is shed by it, but has no virtue whatever, unless it is procured from the animal while alive.[72] It is said that these animals couple for no more than twelve days in the year;[73] and that when pressed by hunger they will eat earth. Among the points of augury, to have our progress cut short to the right by a wolf, if at the time its mouth is full, is the best of omens. There is a species, which is known as the stag-wolf, such as we have already said[74] were brought from Gaul and exhibited in the Circus by Pompeius Magnus. It is said, that however hungry this animal may chance to be, if it only turns its head while eating, it immediately becomes oblivious of the food that is before it, and takes its departure to seek it elsewhere.[75]

CHAP. 35. (23.)—DIFFERENT KINDS OF SERPENTS.

With reference to serpents, it is generally known, that they

he loses no opportunity of a hit at the Greeks, to whom, after all, he is greatly indebted. See Introduction to vol. i. p. 17.

[70] An account of the victories gained at the Olympic games.—B.

[71] It has been conjectured, that the epithet, "Lycæan," Λύκαιος, was given to Jupiter by the Arcadians, for this supposed conversion of men into wolves, which was conceived to be effected by divine interposition.—B.

[72] It does not appear what is the foundation of this opinion; of course, it is without truth.—B.

[73] Aristotle, Hist. Anim. B. vi. c. 35, says that they couple once only in the year. Ælian, Anim. Nat. B. iv. c. 4, says that their bringing forth continues twelve days.—B.

[74] See c. 28 of the present Book. He alludes probably to the lynx.

[75] It is not easy to say whence this opinion was derived; the general character of the wolf is that of quickness and watchfulness, rather than stupidity.—B. But it would appear that it is the lynx that is alluded to.

assume the colour of the soil in which they conceal themselves. The different species of them are innumerable. The cerastes[76] has little horns, often four in number, projecting from the body, by the movement of which it attracts birds, while the rest of its body lies concealed.[77] The amphisbæna[78] has two heads,[79] that is to say, it has a second one at the tail, as though one mouth were too little for the discharge of all its venom. Some serpents have scales, some a mottled skin, and they are all possessed of a deadly poison. The jaculus[80] darts from the branches of trees; and it is not only to our feet that the serpent is formidable, for these fly through the air even, just as though they were hurled from an engine.[81] The neck of the asp[82] puffs out,[83] and there is no remedy whatever

[76] The cerastes, or horned serpent, is mentioned by Lucan, in his description of serpents, Pharsalia, B. ix. l. 716. One of the Scholiasts on Lucan relates a story that when Helen was eloping with Paris, she trod on the back of a cerastes, and broke it; from which circumstance, the whole race moved with a crooked course.

[77] Cuvier has observed this animal burying itself in the sand, and has seen the motion of its horns, but does not credit its alleged power of attracting birds; Lemaire, vol. iii. p. 412.—B.

[78] The amphisbæna is mentioned by Lucan, B. ix. l. 719. "The dangerous amphisbæna, that moves on at either of its heads."

[79] The account of the two heads is obviously incorrect; the idea has arisen from the two extremities being nearly of the same size and appearance. It has been supposed, that there were certain serpents, with the power of moving with equal facility in both directions; and that the name, *Αμφίσβαινα*, was derived from this circumstance.—B.

[80] Lucan mentions the jaculus, B. ix. l. 720, and l. 822. In the last passage he says: "Behold! afar, around the trunk of a barren tree, a fierce serpent—Africa calls it the jaculus—wreathes itself, and then darts forth, and through the head and pierced temples of Paulus it takes its flight: nothing does venom there affect, death seizes him through the wound. It was then understood how slowly fly the stones which the sling hurls, how sluggishly whizzes the flight of the Scythian arrow."

[81] There is an account of the jaculus, or, as it is called in Greek, *Ακοντίας*, in Ælian, Anim. Nat. B. vi. c. 18; it is mentioned by Galen, Theriaca, c. 8.—B.

[82] In B. ix. l. 701, Lucan says: "Here the gore (of the Gorgon Medusa) which first from the sand lifted a head, raised the drowsy asp with its puffed-out neck." The whole of this passage in Lucan is well worth the attention of those desirous to know something of the serpent-lore of the ancients.

[83] Cuvier says, that Geoffroi St. Hilaire has identified this animal with the Coluber haje of Linnæus, which has, from the earliest ages, been known as a native of Egypt, and where it still exists. Its two most remarkable characteristics are those here referred to; the puffing out of the neck when

against its sting, except the instant excision of the affected part.[84] This reptile, which is thus deadly, is possessed of this one sense, or rather affection; the male and the female are generally found together,[85] and the one cannot live without the other; hence it is that, if one of them happens to be killed, the other takes incredible pains to avenge its death. It follows the slayer of its mate, and will single him out among ever such a large number of people, by a sort of instinctive knowledge; with this object it overcomes all difficulties, travels any distance, and is only to be avoided by the intervention of rivers or an accelerated flight. It is really difficult to decide, whether Nature has altogether been more liberal of good or of evil. First of all, however, she has given to this pest but weak powers of sight, and has placed the eyes, not in the front of the head, so that it may see straight before it, but in the temples, so that it is more frequently put in motion by the approach of the footstep than through the sight. (24.) The ichneumon, too, is its enemy[86] to the very death.

enraged, and its capacity of being tamed, or, as it is styled, enchanted. This last has been taken advantage of by the jugglers of that country from the most remote antiquity, as appears from the writings of Moses, and something of a similar nature is still practised. They remove the poison fangs, so as to render the animal harmless, and by certain sounds render it obedient to their call. It appears, also, that by pressing on the upper part of the spine, the animal is rendered paralytic, and may be said to be changed into a rod; this fact was witnessed by St. Hilaire. The asp is described by Aristotle, and is frequently mentioned by Ælian. Galen speaks of its deadly poison, in his Theriaca, c. 8. See Ajasson, vol. vi. pp. 437—9; Lemaire, vol. iii. pp. 414, 415.—B. Pliny mentions, however, in B. xxiii. c. 27, that the bite of the asp may be cured with vinegar.

[84] Both Aristotle, Hist. Anim. B. viii. c. 29, and Ælian, *ubi supra*, speak of the extreme virulence of the poison of the asp, and Cuvier remarks that the haje, and the haga, which are species of the asp, are among the most formidable of the serpent tribe.—B.

[85] The method of attracting this serpent, by imitating the voice of the female, proves that there is some foundation for this statement.—B.

[86] The ichneumon of the ancients, the "Viverra ichneumon" of Linnæus, is still common in Egypt, and renders essential service by destroying the eggs of serpents. With respect to what is here said of its covering its body with mud, to protect itself against the asp, the fact appears to be, that in searching for the eggs, which are deposited in the mud, its body becomes more or less covered with that substance, and may possibly in this way be less exposed to the attacks of the asp. The contest of the asp and the ichneumon is mentioned by Ælian, B. iii. c. 22.—B.

CHAP. 36.—THE ICHNEUMON.

This hostility is the especial glory of this animal, which is also produced in Egypt. It plunges itself repeatedly into the mud, and then dries itself in the sun: as soon as, by these means, it has armed itself with a sufficient number of coatings, it proceeds to the combat. Raising its tail, and turning its back to the serpent, it receives its stings, which are inflicted to no purpose, until at last, turning its head sideways, and viewing its enemy, it seizes it by the throat. Not content, however, with this victory, it conquers another creature also, which is no less dangerous.

CHAP. 37. (25.)—THE CROCODILE.

The Nile produces the crocodile also,[87] a destructive quadruped, and equally dangerous on land and in the water. This is the only land animal that does not enjoy the use of its tongue,[88] and the only one that has the upper jaw moveable, and is capable of biting with it; and terrible is its bite, for the rows of its teeth fit into each other, like those of a comb.[89] Its length mostly exceeds eighteen cubits. It produces eggs about the size of those of the goose, and, by a kind of instinctive foresight, always deposits them beyond the limit to which the river Nile rises, when at its greatest height.[90] There is no animal that arrives at so great a bulk as this, from so small a beginning.[91] It is armed also with claws, and has a skin,

[87] Many of the ancients have described the crocodile; of these, the most important, for the correctness of the description, are Herodotus, B. ii. c. 68; Aristotle, Hist. Anim. B. ii. c. 10, *et alibi;* and Diodorus Siculus, B. i.—B.

[88] The tongue of the crocodile is flat, and, as afterwards stated, B. xi. c. 65, adheres to the lower jaw, so as to be incapable of motion.—B.

[89] This account was first given by Herodotus, *ubi supra;* and, from the form of the head and the neighbouring parts, depicts what would naturally occur to the observer; but it is not correct. The actual state of the parts, and their connection with each other, as Cuvier informs us, were first satisfactorily explained by Geoffroi Saint Hilaire.—B.

[90] Ælian, Anim. Nat. B. v. c. 52, observes, that this is the case with the tortoise, and similar animals.—B.

[91] Cuvier says, that when it leaves the egg, the young animal is only six inches long, and that it ultimately attains a size of from thirty to forty feet.—B.

that is proof against all blows. It passes the day on land, and the night in the water, in both instances on account of the warmth.[92] When it has glutted itself with fish, it goes to sleep on the banks of the river, a portion of the food always remaining in its mouth; upon which, a little bird, which in Egypt is known as the trochilus, and, in Italy, as the king of the birds, for the purpose of obtaining food, invites the crocodile to open its jaws; then, hopping to and fro, it first cleans the outside of its mouth, next the teeth, and then the inside, while the animal opens its jaws as wide as possible, in consequence of the pleasure which it experiences from the titillation.[93] It is at these moments that the ichneumon, seeing it fast asleep in consequence of the agreeable sensation thus produced, darts down its throat like an arrow, and eats away its intestines.[94]

CHAP. 38.—THE SCINCUS.

Like the crocodile, but smaller even than the ichneumon, is the scincus,[95] which is also produced in the Nile, and the flesh of which is the most effectual antidote against poisons, and acts as a powerful aphrodisiac upon the male sex. But so great a pest was the crocodile to prove, that Nature was not content with giving it one enemy only; the dolphins, therefore, which enter

[92] Herodotus says, that it remains all night in the water, as being warmer than the external air. So also Aristotle, Hist. Anim. B. ii. c. 10.—B.

[93] The water of the Nile abounds with small leeches, which attach to the throat of the crocodile, and, as it has no means of removing them, it allows a little bird to enter its mouth for this purpose; this is described by Aristotle, Hist. Anim. B. ix. c. 6, and by Ælian, Anim. Nat. B. iii. c. 2.—B.

[94] Although this account is sanctioned by all the ancient naturalists, it is called in question by Cuvier; Ajasson, vol. vi. p. 441; Lemaire, vol. iii. p. 421.—B.

[95] There is a small lizard, called by the modern naturalists the Lacerta scincus; but Cuvier conceives that this cannot be the animal here referred to, because it is so very much smaller than the ichneumon, that no one would have thought of comparing them; and, what seems a better reason, because it is not found in the Nile. From the account of the scincus in B. xxviii. c. 30, it is probable that the animal here referred to is a species of monitor, popularly called the land crocodile. Herodotus, B. iv. c. 192, speaks of the land crocodile as found in Libya; it is also mentioned by Pausanias, Corinthiaca, c. 20, and by Prosper Alpinus, Ægypt. B. iv. c. 5. —B. The scincus is probably the "Lacerta ouaran" of Cuvier.

the Nile, have the back armed with a spine,[96] which is edged like a knife, as if for this very purpose; and although these animals are much inferior in strength, they contrive to destroy the crocodile by artifice, which on the other hand attempts to drive them from their prey, and would reign alone in its river as its peculiar domain. For all animals have an especial instinct in this respect, and are able to know not only what is for their own advantage, but also what is to the disadvantage of their enemies; they fully understand the use of their own weapons, they know their opportunity, and the weak parts of those with which they have to contend.

The skin of the belly of the crocodile is soft and thin; aware of this, the dolphins plunge into the water, as if in great alarm, and diving beneath its belly, tear it open with their spines. There is a race of men also, who are peculiarly hostile to this animal; they are known as the Tentyritæ, from an island in the Nile which they inhabit.[97] These men are of small stature, but of wonderful presence of mind, though for this particular object only. The crocodile is a terrible animal to those who fly from it, while at the same time it will fly from those who pursue it; these, however, are the only people who dare to attack it. They even swim in the river after it, and mount its back like so many horsemen; and just as the animal turns up its head for the purpose of biting them, they insert a club into its mouth, holding which at each end, with the two hands, it acts like a bit, and by these means they drive the captured animal on shore. They also terrify the crocodile so much by their voice alone even, as to force it to disgorge the bodies which it has lately swallowed, for the purpose of burial. This island, therefore, is the only place near which the crocodile never swims; indeed, it is repelled by the odour of this race of men, just as serpents are by that of the Psylli.[98] The

[96] Cuvier remarks, that this account cannot really apply to the dolphin, because none of the cetacea possess the spines here described. He investigates the subject with his usual sagacity, and concludes, with much probability, that the animal here referred to was a squalus, the Squalus centrina, or spinax of Linnæus; Ajasson, vol. vi. pp. 443, 444; Lemaire, vol. iii. pp. 422, 423. We have an account of the contest between the crocodile and the dolphin in Seneca, Nat. Quæst. B. iv. c. 2.—B.

[97] We have some account of the Tentyritæ in Ælian, Anim. Nat. B. x. c. 21.—B. See B. xxviii. c. 6.

[98] See B. vii. c. 2. The best description of the Psylli is that given by

sight of this animal is said to be dull when it is in the water, but, when out of the water, piercing in the extreme; it always passes the four winter months in a cave, without taking food.[99] Some persons say, that this is the only animal that continues to increase in size as long as it lives; it is very long-lived.

CHAP. 39.—THE HIPPOPOTAMUS.

The Nile produces the hippopotamus, another wild beast, of a still greater size. It has the cloven hoof of the ox; the back, the mane, and the neighing of the horse; and the turned-up snout, the tail, and the hooked teeth of the wild boar, but not so dangerous.[1] The hide is impenetrable, except when it has been soaked with water; and it is used for making shields and helmets.[2] This animal lays waste the standing corn, and determines beforehand what part it shall ravage on the following day; it is said also, that it enters the field backwards, to prevent any ambush being laid for it on its return.

CHAP. 40. (26.)—WHO FIRST EXHIBITED THE HIPPOPOTAMUS AND THE CROCODILE AT ROME.

M. Scaurus was the first who exhibited this animal at Rome, together with five crocodiles, at the games which he gave in his ædileship, in a piece of water[3] which had been temporarily prepared for the purpose. The hippopotamus has even been

/Lucan in B. ix. l. 892, *et seq.*, where he describes the march of Cato's army across the burning coasts of the Syrtes.

[99] This, as Cuvier remarks, is the case with the crocodiles of North America, which, like other reptiles, become torpid during the cold season; Ajasson, vol. vi. p. 444; Lemaire, vol. iii. p. 424.—B.

[1] Cuvier remarks, as singular, that the descriptions given by the ancients of the hippopotamus should have been incorrect, more especially with reference to Herodotus, who had visited Egypt, and who has described some of the animals of that country with considerable accuracy; Ajasson, vol. vi. pp. 444, 445; Lemaire, vol. iii. p. 425. Pliny has copied the description of Herodotus, B. ii. c. 71, almost verbatim, and the same has been done by Aristotle, Hist. Anim. B. ii. c. 7. Even the Latin authors, such as Diodorus Siculus and Ælian, who might have seen the animal in Rome, continued to transcribe the account of Herodotus.—B.

[2] Herodotus and Aristotle, *ubi supra*, assert, that his hide is so hard, that spears and other missiles are formed from it; the statement of Pliny is, however, much more correct.—B.

[3] "Euripo." See the Notes to c. 7 of this Book.

our instructor in one of the operations of medicine.[4] When the animal has become too bulky by continued over-feeding, it goes down to the banks of the river, and examines the reeds which have been newly cut; as soon as it has found a stump that is very sharp, it presses its body against it, and so wounds one of the veins in the thigh; and, by the flow of blood thus produced, the body, which would otherwise have fallen into a morbid state, is relieved; after which, it covers up the wound with mud.

CHAP. 41. (27.)—THE MEDICINAL REMEDIES WHICH HAVE BEEN BORROWED FROM ANIMALS.[5]

The bird also, which is called the ibis,[6] a native of the same country of Egypt, has shewn us some things of a similar nature. By means of its hooked beak, it laves the body through that part, by which it is especially necessary for health that the residuous food should be discharged. Nor, indeed, are these the only inventions which have been borrowed from animals, to prove of use to man. The power of the herb dittany, in extracting arrows, was first disclosed to us by stags that had been struck by that weapon; the weapon being

[4] Pliny, speaking of the hippopotamus, in B. xxviii. c. 31, styles it, "the discoverer of the art of letting blood."—B.

[5] Cuvier remarks upon this and the following Chapter, that they are entirely fabulous. The diseases, remedies, and instructions given by the animals are equally imaginary, although Pliny has taken the whole from authors of credit, and it has been repeated by Plutarch, De Iside, and by Ælian, Anim. Nat. B. ii. c. 35, and many others. Ajasson, vol. vi. p. 446; Lemaire, vol. iii. p. 426.—B.

[6] Cuvier has given an interesting account of the ibis, the opinions entertained of it by various travellers and naturalists, and a detail of the examination which he made of two of its mummies, which were brought by Grobert to Paris, from the wells of Sakhara. These mummies were found to be similar to those previously examined by Buffon, Shaw, and others, and proved the ibis of the ancient Egyptians to have been a species of curlew. This opinion he further supports by a reference to various sculptures and mosaics, where this bird is represented, and he remarks upon the errors into which most travellers and historians have fallen as to it; the only correct account he conceives to be that of the African traveller, Bruce, who describes and figures it under the name of Abou hannès. See the extract in Lemaire, vol. iii. p. 633, *et seq.*, from his *Recherches sur les Ossements Fossiles*, vol. i. p. 141, *et seq.* Herodotus gives an account of the ibis, B. i. c. 75, 76, but it is not correct.—B.

discharged on their feeding upon this plant.[7] The same animals, too, when they happen to have been wounded by the phalangium, a species of spider, or by any insect of a similar nature, cure themselves by eating crabs. One of the very best remedies for the bite of the serpent, is the plant[8] with which lizards treat their wounds when injured in fighting with each other. The swallow has shown us that the chelidonia[9] is very serviceable to the sight, by the fact of its employing it for the cure of its young, when their eyes are affected. The tortoise recruits its powers of effectually resisting serpents, by eating the plant which is known as cunile bubula;[10] and the weasel feeds on rue, when it fights with the serpent in the pursuit of mice.[11] The stork cures itself of its diseases with wild marjoram, and the wild boar with ivy, as also by eating crabs, and more particularly those that have been thrown up by the sea.[12] The snake, when the membrane which covers its body

[7] The fabulous account of the powers of this herb is referred to in B. xxv. c. 53, and supported by the highest authorities; among others, by Aristotle, Hist. Anim. B. ix. c. 6.; Cicero, De Nat. Deor. B. ii. c. 50; Virgil, Æn. B. xii. c. 412.—B.

[8] See B. xxii. c. 45, for a similar cure. It is not known what plant is here alluded to, but it has been thought to be the cinara, or artichoke.

[9] The Chelidonium majus of Linnæus. It probably derived its name from the swallow, χελιδων, because its flowers appear at the time that bird makes its first appearance in the spring. This supposed property is mentioned by Ælian, Anim. Nat. B. iii. c. 25. Pliny speaks of its efficacy in diseases of the eyes, B. xxv. c. 50, and c. 91.—B.

[10] Pliny speaks of the medical virtues of cunile bubula, in B. xx. c. 61; Columella, B. vi. c. 13, says that it is a cure for scabies. It is not certain what is the plant here referred to; it is considered identical with origanum, by Hardouin, and has been supposed by some to be marjoram, or pennyroyal. The effect of the cunile on the tortoise is mentioned by Aristotle, Hist. Anim. B. ix. c. 6; by Plutarch, Nat. Quæst.; Ælian, Anim. Nat. B. vi. c. 12; and by Albertus Magnus, B. viii. Tr. ii. c. 2; but there is some difference in their statements. Some speak of it as an antidote, enabling the tortoise to counteract the poison of the serpent, while others regard it as giving the tortoise increased vigour to resist the attacks.

[11] Aristotle, *ubi supra*, and Ælian, Anim. Nat. B. iv. c. 14, refer to this supposed fact, which is without foundation, so far, at least, as the contest of the weasels with the serpents and the rue are concerned. The hostility of the weasel to the mouse is probably correct. Pliny again refers to it, B. xx. c. 51, and it forms the subject of one of Phædrus's Fables, B. iv. c. 2.—B.

[12] We have the same account in Plutarch.—B. Plutarch speaks, however, of the *river* crab.

has been contracted by the cold of winter, throws it off in the spring by the aid of the juices of fennel,[13] and thus becomes sleek and youthful in appearance. First of all, it disengages the head, and it then takes no less than a day and a night in working itself out, and divesting itself of the membrane in which it has been enclosed. The same animal, too, on finding its sight weakened during its winter retreat, anoints and refreshes its eyes by rubbing itself on the plant called fennel or marathrum; but if any of the scales are slow in coming off,[14] it rubs itself against the thorns of the juniper. The dragon relieves the nausea which affects it in spring, with the juices of the lettuce.[15] The barbarous nations go to hunt the panther, provided with meat that has been rubbed with aconite, which is a poison.[16] Immediately on eating it, compression of the throat overtakes them, from which circumstance it is, that the plant has received the name of pardalianches.[17] The animal, however, has found an antidote against this poison in human excrements; besides which, it is so eager to get at them, that the shepherds purposely suspend them in a vessel, placed so high, that the animal cannot reach them even by leaping, when it endeavours to get at them; accordingly, it continues to leap until it has quite exhausted itself, and at last expires: otherwise, it is so tenacious of life, that it will con-

[13] Pliny refers to this effect, B. xx. c. 95; he speaks also of its application to the eyes of the animal; it is probable, that feniculum and marathrum both refer to the same plant; the latter being the ordinary Greek, and the former the Latin, name. This effect of the feniculum is also mentioned by Ælian, B. ix. c. 16.—B.

[14] "Si vero squamæ obtorpuere;" Hardouin supposes that this applies particularly to the eyes.—B. There can be little doubt that he is correct in that supposition.

[15] Aristotle, *ubi supra*, and Ælian, Anim. Nat. B. vi. c. 4, state that the dragon takes the juice of the *picris* into the stomach, when overloaded with food. The exact plant referred to, under that name, cannot be ascertained for certain; but it appears probable, that it is a wild lettuce or endive, or some plant belonging to that family.—B.

[16] This effect of aconite, and the antidote for it, are mentioned in B. xxvii. c. 2; they are also mentioned by Aristotle, *ubi supra*; and by Ælian, Anim. Nat. B. iv. c. 49, and alluded to by Cicero, De. Nat. Deor. B. ii. c. 50. It appears from a statement of Tavernier, as referred to by Hardouin, that the same antidote against poisoned weapons is still employed in the island of Java.—B.

[17] From the Greek παρδαλιαγχὴς, "pard-strangle."

tinue to fight long after its intestines have been dragged out of its body.

When an elephant has happened to devour a chameleon, which is of the same colour with the herbage, it counteracts this poison by means of the wild olive. Bears, when they have eaten of the fruit of the mandrake, lick up numbers of ants.[18] The stag counteracts the effect of poisonous plants by eating the artichoke. Wood-pigeons, jackdaws, blackbirds, and partridges, purge themselves once a year by eating bay leaves; pigeons, turtle-doves, and poultry, with wall-pellitory, or helxine; ducks, geese, and other aquatic birds, with the plant sideritis or vervain; cranes, and birds of a similar nature, with the bulrush. The raven, when it has killed a chameleon, a contest in which even the conqueror suffers, counteracts the poison by means of laurel.

CHAP. 42. (28.)—PROGNOSTICS OF DANGER DERIVED FROM ANIMALS.

There are a thousand other facts of this kind: and the same Nature has also bestowed upon many animals as well, the faculty of observing the heavens, and of presaging the winds, rains, and tempests, each in its own peculiar way. It would be an endless labour to enumerate them all; just as much as it would be to point out the relation of each to man.[19] For, in fact, they warn us of danger, not only by their fibres and their entrails, to which a large portion of mankind attach the greatest faith, but by other kinds of warnings as well. When a building is about to fall down, all the mice desert it[20] before-hand, and the spiders with their webs are the first to drop. Divination from birds has been made a science among the Romans, and the college of its priests is looked upon as peculiarly sacred.[21] In Thrace, when all parts are covered

[18] This is again referred to, B. xxix. c. 39.—B.

[19] "Quod persequi immensum est æque scilicet quam reliquam cum singulis hominum societatem." The meaning of this passage is obscure, and extremely doubtful.

[20] This is alluded to by Cicero in his letters to Atticus, and is mentioned by Ælian, Anim. Nat. B. vi. c. 41; B. xi. c. 19; and Var. Hist. B. i. c. 11.—B. The same is still said of rats, whence our expression "to rat," *i. e.* to desert a falling cause.

[21] The priests of this college, or augurs, were among the most important public functionaries in the Roman state, both from the rank of the indivi-

with ice, the foxes are consulted, an animal which, in other respects, is baneful from its craftiness. It has been observed, that this animal applies its ear to the ice, for the purpose of testing its thickness; hence it is, that the inhabitants will never cross frozen rivers and lakes until the foxes have passed over them and returned.

CHAP. 43. (29.)—NATIONS THAT HAVE BEEN EXTERMINATED BY ANIMALS.

We have accounts, too, no less remarkable, in reference even to the most contemptible of animals. M. Varro informs us, that a town in Spain was undermined by rabbits, and one in Thessaly, by mice; that the inhabitants of a district in Gaul were driven from their country by frogs,[22] and a place in Africa by locusts;[23] that the inhabitants of Gyarus,[24] one of the Cyclades, were driven away by mice;[25] and the Amunclæ, in Italy, by serpents. There is a vast desert tract on this side of the Æthiopian Cynamolgi,[26] the inhabitants of which were exterminated by scorpions and venomous ants.[27]

duals and the political power which they derived from their office.—B. The augurs, or diviners by birds, held the highest rank in the state; but the power of their college greatly declined in the later period of the Roman history. It was finally abolished by the Emperor Theodosius.

[22] Other instances are mentioned by Diodorus Siculus, B. iii. Justin, B. xv. c. 2, and Ælian, Hist. Anim. B. xvii. c. 41.—B. Showers of frogs are a thing not unknown in England even. They are probably caused by whirlwinds acting upon waters which are the haunt of these animals.

[23] The ravages of locusts have been known in all ages; their destructive effects in Egypt and Judea, have formed the subject of a very elaborate dissertation by Bochart, in his work on the "Animals of Scripture," Part i. B. iv. c. 3 and 4.—B.

[24] Used as a place of banishment by the Romans. See B. iv. c. 28, and c. 82, of the present Book.

[25] See c. 82 of the present Book, and B. x. c. 85.—B.

[26] The "dog-milkers." See B. vi. c. 35.

[27] "Solipugis." There has been much discussion as to the word here employed by Pliny, and the animal which he intends to designate. The solipugus, solpugus, solipuga, or solipunga, probably different names of the same animal, is mentioned by various writers; among others, by Lucan, Phars. B. ix. l. 837; Diodorus Siculus, B. iii.; Strabo, B. xvi.; and Ælian, Hist. Anim. B. xvii. c. 40. It is again referred to in B. xxix. c. 16. The description given is, however, too indefinite to enable us to identify it with any known animal; it would almost seem to indicate something between the spider and the ant.—B. We still hear in modern times of the venomous

and Theophrastus informs us, that the people of Rhœteum[28] were driven away by scolopendræ.[29] But we must now return to the other kinds of wild beasts.

CHAP. 44. (30.)—THE HYÆNA.

It is the vulgar notion, that the hyæna possesses in itself both sexes, being a male during one year, and a female the next, and that it becomes pregnant without the co-operation of the male; Aristotle, however, denies this.[30] The neck, with the mane, runs continuously into the back-bone, so that the animal cannot bend this part without turning round the whole body. Many other wonderful things are also related of this animal; and strangest of all, that it imitates the human voice among the stalls of the shepherds; and while there, learns the name of some one of them, and then calls him away, and devours him. It is said also, that it can imitate a man vomiting, and that, in this way, it attracts the dogs, and then falls upon them. It is the only animal that digs up graves, in order to obtain the bodies of the dead. The female is rarely caught: its eyes, it is said, are of a thousand various colours and changes of shade. It is said also, that on coming in contact with its shadow, dogs will lose their voice, and that, by certain magical influences, it can render any animal immoveable, round which it has walked three times.

CHAP. 45.—THE COROCOTTA; THE MANTICHORA.[31]

By the union of the hyæna with the Æthiopian lioness, the

and destructive nature of the red ants on the coast of Guinea; and it is not improbable that it is to these that Pliny alludes.

[28] See B. v. c. 33.

[29] This is mentioned by Ælian, Anim. Nat. B. xv. c. 26.—B. The scolopendra is one of the multipede insects.

[30] Aristotle, De Gener. Anim. B. iii. c. 6, and Hist. Anim. B. vi. c. 32, accounts for the vulgar error, by stating that the hyæna has a peculiar structure of the parts about the anus, which might, to an unpractised eye, give the idea, that it possesses the generative organs of both sexes. Ælian, Anim. Nat. B. i. c. 25, and Oppian, Cyneget. B. iii. c. 289, have adopted this erroneous opinion. What is said respecting the hyæna, in the remaining part of this Chapter, is mostly without foundation.—B.

[31] We have had some account given of the mantichora, in c. 30. The mantichora and the corocotta are altogether imaginary.—B. Cuvier, in

corocotta is produced, which has the same faculty of imitating the voices of men and cattle. Its gaze is always fixed and immoveable; it has no gums in either of its jaws, and the teeth are one continuous piece of bone; they are enclosed in a sort of box as it were, that they may not be blunted by rubbing against each other. Juba informs us, that the mantichora of Æthiopia can also imitate the human speech.

CHAP. 46.—WILD ASSES.

Great numbers of hyænas are produced in Africa, which also gives birth to multitudes of wild asses. In this species each male rules over a herd of females. Fearing rivals in their lust, they carefully watch the pregnant females, and castrate the young males with their teeth, as soon as they are born.[32] The pregnant females, on the other hand, seek concealment, and endeavour to bring forth in secret, being desirous to increase their opportunities of sexual indulgence.

CHAP. 47.—BEAVERS, AMPHIBIOUS ANIMALS;[33] OTTERS.

The beavers of the Euxine, when they are closely pressed by danger, themselves cut off the same part, as they know that it is for this that they are pursued. This substance is called castoreum by the physicians.[34] In addition to this, the bite of this animal is terrible; with its teeth it can cut down trees

Ajasson, vol. vi. p. 447; Lemaire, vol. iii. p. 439, thinks that the stories of the corocotta and the catoblepas, owe their origin to mutilated accounts of the hyæna, and the animal known to us as the gnu.

[32] According to Cuvier, what Pliny here says respecting the herds of wild asses, and the power of the old males, is correct; but it is doubtful whether there is any foundation for what is said about the castration of the newly-born animals; Ajasson, *ubi supra;* Lemaire, vol. iii. p. 440.—B.

[33] "De aquaticis et iisdem terrestribus;" although these words are inserted in the title of this Chapter, the subject is not treated of in it.—B.

[34] Pliny here adopts the vulgar opinion respecting the origin of the substance called "castor," and in B. xxxii. c. 13, gives a more correct description, which he had derived from a physician, named Sextius. It is a fetid, oily substance, secreted by a gland situate near the prepuce. Cuvier remarks, that when the gland becomes distended with this secretion, the animal may probably get rid of it by rubbing the part against a stone or tree, and in this way, leave the castor for the hunters, thus giving rise to the vulgar error. Ajasson, vol. vi. p. 448; Lemaire, vol. iii. p. 440.—B.

on the banks of rivers, just as though with a knife.[35] If they seize a man by any part of his body, they will never loose their hold until his bones are broken and crackle under their teeth. The tail is like that of a fish;[36] in the other parts of the body they resemble the otter;[37] they are both of them aquatic animals, and both have hair softer than down.

CHAP. 48. (31.)—BRAMBLE-FROGS.

Bramble-frogs,[38] also, which live both on land and in water, are replete with various medicinal substances, which they are said to discharge each day, and to take in again with their food, of which they only retain the poisonous parts.

CHAP. 49.—THE SEA-CALF; BEAVERS; LIZARDS.

The sea-calf, too, lives equally in the sea and on land, being possessed of the same degree of intelligence as the beaver. It vomits forth its gall, which is useful for many purposes in medicine; also the rennet,[39] which serves as a remedy in epilepsy; for it is well aware that it is hunted for these sub-

[35] The beaver has the most powerful teeth of any animal of the class Rodentia, to which it belongs; it uses them for cutting down trees, with which it constructs its habitation. Aristotle, Hist. Anim. B. viii. c. 5, refers to this.—B.

[36] The tail is covered with a kind of scale, and is flattened; but, in its internal organization, is formed like those of other quadrupeds.—B.

[37] See B. xxxii. c. 52.

[38] Pliny, speaking of the different kinds of frogs, B. xxxii. c. 18, says, "There are some which live only in the hedges, and thence have the name of rubeta, or bramble frogs." It seems impossible to identify this reptile with any of our known animals: and we may conclude that there is no foundation for the statement. Ælian gives an account of the venomous nature of this animal. Anim. Nat. B. xvii. c. 12.—B.

[39] As Cuvier remarks, it is impossible that any animal can discharge by vomiting what Pliny terms the "coagulum," which is the fourth stomach of a ruminant animal; the same substance which, under the name of rennet, is employed to coagulate milk. He conjectures, that the error may have originated in the observation, that occasionally in fish, when suddenly drawn out of the water, the air-bladder is protruded from the mouth, which may have been mistaken for the stomach. The circumstance is mentioned by Aristotle, Hist. Anim. B. viii. c. 23, and by Ælian, Anim. Nat. B. iii. c. 19, as well as the vomiting of the bile; respecting this latter, we may remark, that vomiting is produced in various animals, when under the influence of extreme terror.—B.

stances. Theophrastus informs us, that lizards[40] also cast their skins like the serpent, and instantly devour them, thus depriving us of a powerful remedy for epilepsy; he says, too, that the bite of the lizard is fatal in Greece, but harmless in Italy.[41]

CHAP. 50. (32.)—STAGS.

Stags, although the most mild of all animals, have still their own feelings of malignancy;[42] when hard pressed by the hounds, of their own accord they fly for refuge to man; and when the females bring forth, they are less anxious to avoid the paths which bear traces of human footsteps, than solitary spots which offer a retreat to wild beasts.[43] They become pregnant after the rising of the constellation Arcturus;[44] they bring forth after a gestation of eight months, and sometimes produce two young ones. They separate after conception, but the males, upon being thus abandoned, become maddened with the fury of their passion; they dig up the earth, and their muzzles become quite black, until they have been washed by the rain.[45] The females, before they bring forth, purge themselves by means of a certain herb, which is called seselis, by the use of which parturition is rendered more easy. After delivery, they take a mixture of the two plants called seselis[46] and aros,[47] and then return to the fawn; they seem desirous, for

[40] The gecko, according to Littrè.

[41] This is incorrect; the bite of this animal, wherever found, is never fatal.—B.

[42] This refers to what will be found stated in this Chapter, that stags conceal their horns, when they fall off, that they may not be used in medicine.—B.

[43] This is mentioned by Aristotle, Plutarch, and Ælian, but it must be considered as very doubtful.—B.

[44] See B. xviii. c. 74.

[45] It seems that Pliny here attributes the blackening of the mouths of the stags to their turning up the earth with their muzzles; Aristotle, however, refers it to a constitutional cause, arising from their violent sexual excitement; Hist. Anim. B. vi. c. 29.—B.

[46] Or seseli, probably hart-wort. See B. xx. c. 87, and B. xxv. c. 52.

[47] We learn from Hardouin, that there has been much discussion respecting the plants or other substances which the female is supposed to eat after parturition. Aristotle, Hist. Anim. B. ix. c. 6, asserts that it eats the chorion, the membrane in which the fœtus has been enveloped, and afterwards the herb seselis. To make the account of Pliny agree with that of Aristotle, some of the commentators have even supposed, that

some reason or other, that their first milk, after parturition, should be impregnated with the juice of these plants. They then exercise the young ones in running, and teach them how to take to flight, leading them to precipices, and showing them how to leap. The sexual passion of the male having been now satisfied, he repairs to the pasture lands with the greatest eagerness. When they feel themselves becoming too fat, they seek some retired spot, thus acknowledging the inconvenience arising from their bulk. Besides this, they continually pause in their flight, stand still and look back, and then again resume their flight when the enemy approaches. This pause is occasioned by the intense pain which they feel in the intestines, a part which is so weak, that a very slight blow will cause them to break within. The barking of a dog instantly puts them to flight, and they always run with the wind, in order that no trace of them may be left. They are soothed by the shepherd's pipe and his song;[48] when their ears are erect, their sense of hearing is very acute, but when dropped, they become deaf.[49]

In other respects the stag is a simple animal, which regards every thing as wonderful, and with a stupid astonishment; so much so, indeed, that if a horse or cow happens to approach it, it will not see the hunter, who may be close at hand, or, if it does see him, it only gazes upon his bow and arrow. Stags cross the sea in herds, swimming in a long line, the head of each resting on the haunches of the one that precedes it, each in its turn falling back to the rear. This has been particularly remarked when they pass over from Cilicia to the island of Cyprus. Though they do not see the land, they still are able to direct themselves by the smell. The males have horns, and are the only animals that shed them every year, at a stated time in the spring; at which period they seek out with the greatest care the most retired places, and after losing them, remain concealed, as though aware that they

chorion here means the name of a plant, and they have proposed to substitute the word *chorion* for *aros* in the text.—B. Aros is probably the present "Arum maculatum," or wake-robin. See p. 307, N. 78.

[48] Aristotle, Plutarch, and Xenophon speak of the influence of music on these animals.—B.

[49] Aristotle, *ubi supra*, mentions this respecting their ears; the same takes place, to a certain extent, with all animals that have large external auricles.—B.

are unarmed. Still, however, they envy us the good that these might do us; for it is said the right horn, which possesses, as it were, certain medicinal properties, can never be found, a circumstance the more astonishing, from the fact that they change their horns every year, even when kept in parks;[50] it is generally thought that they bury their horns in the ground. The odour of either horn, when burnt, drives away serpents and detects epilepsy. They also bear the marks of their age on the horns, every year, up to the sixth,[51] a fresh antler being added; after which period the horns are renewed in the same state, so that by means of them their age cannot be ascertained. Their old age, however, is indicated by their teeth, for then they have only a few, or none at all; and we then no longer perceive, at the base of their horns, antlers projecting from the front of the forehead, as is usually the case with the animal when young.

When this animal is castrated it does not shed its horns, nor are they reproduced. When the horns begin to be reproduced, two projections are to be seen, much resembling, at first, dry skin; they grow with tender shoots, having upon them a soft down like that on the head of a reed. So long as they are without horns, they go to feed during the night. As the horns grow, they harden by the heat of the sun, and the animal, from time to time, tries their strength upon the trees; when satisfied with their strength, it leaves its retreat.

Stags, too, have been occasionally caught with ivy green and growing on their horns,[52] the plant having taken root on them, as it would on any piece of wood, while the animal was rubbing them against the trees. The stag is sometimes found white, as is said to have been the case with the hind of Q. Sertorius, which he persuaded the nations of Spain to look upon as having the gift of prophecy.[53] The stag, too,

[50] Aristotle, *ubi supra*, Ælian, *ubi supra*, and B. iii. c. 17, and Theophrastus, in a fragment on the Envious among Animals, agree in stating that one of the horns of the stag is never found, although they differ respecting the individual horn, whether the right one or the left. Aristotle says that it is the left, while Theophrastus and Ælian agree with the statement of Pliny.—B.

[51] Cuvier says, that no antlers are added after the eighth year.—B.

[52] This, as well as most of the statements respecting the growth of the horns, is mentioned by Aristotle, *ubi supra*, but it is quite unfounded.—B.

[53] This story of the white hind of Sertorius, is given in detail by Aulus Gellius, B. xv. c. 22, who tells us that it was given to him by a native of Lusitania, upon which Sertorius pretended that it had been sent from

fights with the serpent: it traces out the serpent's hole, and draws it forth by the breath of its nostrils,[54] and hence it is that the smell of burnt stags' horn has the remarkable power of driving away serpents. The very best remedy for the bite of a serpent is the rennet of a fawn that has been killed in the womb of its mother.

The stag is generally admitted to be very long lived; some were captured at the end of one hundred years with the golden collars which Alexander the Great had put upon them, and which were quite concealed by the folds of the skin, in consequence of the accumulation of fat.[55] This animal is not subject to fever, and, indeed, it is a preservative against that complaint. We know that of late some women of princely rank have been in the habit of eating the flesh of the stag every morning, and that they have arrived at an extreme old age, free from all fevers. It is, however, generally supposed that the animal must be killed by a single wound to make sure of it possessing this virtue.

(33.) Of the same species is an animal, which only differs from the stag in having a beard and long hair about the shoulders: it is called tragelaphus,[56] and is produced nowhere except on the banks of the Phasis.[57]

CHAP. 51.—THE CHAMELEON.

Africa is almost the only country that does not produce[58]

Diana, who, through it, held converse with him, and instructed him how to act. Plutarch, Frontinus, and Valerius Maximus, also relate the story.

[54] This story, which is obviously incorrect, is mentioned by Ælian, Anim. Nat. B. ii. c. 9; and is again referred to in B. xxviii. c. 42.—B.

[55] Graguinus, Hist. Franc. B. ix. c. 3, relates a still more wonderful anecdote of a similar nature; but, as Buffon remarks, such tales are without foundation, the life of the stag not being more than thirty or forty years. Cuvier, also, says that its life does not exceed thirty-six or forty years.—B.

[56] The real nature of the tragelaphus of Pliny, and the hippelaphus, or horse-stag of Aristotle, Hist. Anim. B. ii. c. 1, which appear to be the same animal, had long remained a disputed question among naturalists, when, as Cuvier states, the point was decided by Alphonse Duvaucel, who ascertained that it was a species of stag, which inhabited the mountains of the north of Hindostan.—B.

[57] And in Arabia as well, according to Diodorus Siculus, B. ii.

[58] This fact is confirmed by Cuvier, who observes, that it is the more remarkable that Africa should be without stags, as it abounds in gazelles of all forms and colours. He supposes that those travellers, who affirm that

the stag, but then it produces the chameleon,[59] although it is much more commonly met with in India. Its figure and size are that of a lizard, only that its legs are straight and longer. Its sides unite under its belly, as in fishes, and its spine projects in a similar manner. Its muzzle is not unlike the snout of a small hog, so far as in so small an animal it can be. Its tail is very long, and becomes smaller towards the end, coiling up in folds like that of the viper. It has hooked claws, and a slow movement like that of the tortoise; its body is rough like that of the crocodile; its eyes are deep sunk in the orbits, placed very near each other, very large, and of the same colour as the body. It never closes them, and when the animal looks round, it does so, not by the motion of the pupil, but of the white of the eye.[60] It always holds the head upright and the mouth open, and is the only animal which receives nourishment neither by meat nor drink, nor anything else, but from the air alone.[61] Towards the end of the dog-days[62] it is fierce, but at other times quite harmless. The nature of its colour, too, is very remarkable, for it is continually changing; its eyes, its tail, and its whole body always assuming the colour of whatever object is nearest, with the exception of white and red.[63] After death, it becomes of a

they have seen stags in this country, had really met with gazelles, which they mistook for those animals; Ajasson, vol. vi. p. 451; Lemaire, vol. iii. p. 453.—B.

[59] Cuvier remarks, that Pliny's account of the chameleon appears to be taken from Aristotle, Hist. Anim. B. ii. c. 11, but that it is less correct. He notices Aristotle's account of the eye, which is more accurately given than the account of Pliny; Ajasson, vol. vi. pp. 451, 452; Lemaire, vol. iii. p. 454.—B. The chameleon receives its name from the Greek χαμαὶ λέων, "the lion on the ground."

[60] See B. xi. c. 55.

[61] One of those popular errors which have descended from the ancients to our times; the chameleon feeds on insects, which it seizes by means of its long flexible tongue; the quantity of food which it requires appears, however, to be small in proportion to its bulk.—B.

[62] "Circa caprificos." Some commentators would understand this in reference to the wild fig-tree, and take it to mean that the animal is more furious when in its vicinity. The conjecture of Hardouin, however, seems more reasonable. He takes "caprificos" to mean the same as the "caprificialis dies," mentioned in B. xi. c. 15, as being sacred to Vulcan, and falling towards the end of the dog-days.

[63] This is another of the erroneous opinions respecting the chameleon, which has been very generally adopted. It forms the basis of Merrick's

pale colour. It has a little flesh about the head, the jaws, and the root of the tail, but none whatever on the rest of the body. It has no blood whatever, except in the heart and about the eyes, and its entrails are without a spleen.[64] It conceals itself during the winter months, just like the lizard.

CHAP. 52.—OTHER ANIMALS WHICH CHANGE COLOUR; THE TARANDUS, THE LYCAON, AND THE THOS.

The tarandrus,[65] too, of the Scythians, changes its colour, but this is the case with none of the animals which are covered with hair, except the lycaon[66] of India, which is said to have a mane on the neck. But with respect to the thos,[67] (which is a species of wolf, differing from the common kind in having a larger body and very short legs, leaping with great activity, living by the chase, and never attacking man); it changes its

popular poem of the Chameleon. The animal, indeed, assumes various shades or tints, but the changes depend upon internal or constitutional causes, not any external object. Ælian, Anim. Nat. B. ii. c. 14, refers to the change of colour, but does not allude to its colour having any connection with that of the object with which it comes in contact.—B.

[64] The quantity of muscular fibre and blood in the chameleon is no doubt small in proportion to the bulk of the animal, although not much less than in other animals of the same natural order; its spleen is very minute, as Cuvier says, not larger than the seed of a lentil.—B.

[65] Cuvier remarks, that this account is from the anonymous treatise De Mirab. Auscult. p. 1152, and from Theophrastus; and that it was probably derived, in the first instance, from the imperfect account which the ancients possessed of the reindeer, the hair of which animal becomes nearly white in the winter, and in the summer of a brown or grey colour. Bekmann, however, who has written a commentary on the above-mentioned treatise, supposes that the tarandrus is the elk. Cuvier conceives, that the animal described by Cæsar, Bell. Gall. B. vi. c. 26, as inhabiting the Hercynian Forest, which he designates as "bos cervi figurâ," is the reindeer; and suggests that "tarandrus" may have originated in the German, *das rennthier*. Ajasson, vol. vi. pp. 453, 454; Lemaire, vol. iii. pp. 456, 457. Ælian, Anim. Nat. B. ii. c. 16, speaks of the change of colour in the tarandrus in a way which does not correspond with any animal known to exist.—B. Pliny's stories of the tarandrus, thos, and chameleon are ridiculed by Rabelais, B. iv. c. 3.

[66] Cuvier supposes that the lycaon of Pliny is the Indian tiger, which has a mane; but what is said of its change of colour is incorrect.—B.

[67] Naturalists have differed respecting the identity of the animal here described, but Cuvier conceives, that Bochart has proved it to be the canis aureus chakal (jackal) of Linnæus. The description given by Aristotle, Hist. Anim. B. ii. c. 17, and B. ix. c. 44, agrees with this supposition; it is also described by Oppian, Halieut. B. ii. c. 615.—B.

coat, and not its colour, for it is covered with hair in the winter, and goes bare in summer. The tarandrus is of the size of the ox; its head is larger than that of the stag, and not very unlike it; its horns are branched, its hoofs cloven, and its hair as long as that of the bear. Its proper colour, when it thinks proper to return to it, is like that of the ass. Its hide is of such extreme hardness, that it is used for making breast-plates. When it is frightened, this animal reflects the colour of all the trees, shrubs, and flowers, or of the spots in which it is concealed; hence it is that it is so rarely captured. It is wonderful that such various hues should be given to the body, but still more so that it should be given to the hair.

CHAP. 53. (35.)—THE PORCUPINE.

India and Africa produce the porcupine, the body of which is covered with prickles. It is a species of hedgehog, but the quills of the porcupine are longer, and when it stretches the skin, it discharges them like so many missiles. With these it pierces the mouths of the dogs which are pressing hard upon it, and even sends its darts to some distance further[68] It conceals itself during the winter months, which, indeed, is the nature of many animals, and more especially the bear.

CHAP. 54. (36.)—BEARS AND THEIR CUBS.

Bears couple in the beginning of winter,[69] and not after the fashion of other quadrupeds; for both animals lie down and embrace each other.[70] The female then retires by herself to a separate den, and there brings forth on the thirtieth day, mostly five young ones. When first born, they are shapeless masses of white flesh, a little larger than mice;[71] their claws alone being

[68] It is possible that the quills of the porcupine may be stuck into the skin of the dog so firmly, as to be detached from their natural situation; but there is no reason to believe that they can be darted out or projected by any exertion of the animal. Ælian, Anim. Nat. B. i. c. 31, and B. xii. c. 26, describes the hystrix; see also Aristotle, Hist. Anim. B. vi. c. 30.—B.

[69] Cuvier remarks, that this account of the bear is generally correct; he points out, however, certain errors, which will be duly noticed. Ælian, Anim. Nat. B. vi. c. 3, gives an account of the parturition of the bear.—B.

[70] This description of their mode of coupling, though from Aristotle, Hist. Anim. B. vi. c. 30, is not correct. Buffon and other naturalists assure us that they do not differ herein from other quadrupeds.—B.

[71] Aristotle says, that the cubs are born blind, without hair, and that

prominent. The mother then licks them gradually into proper shape. There is nothing more uncommon than to see a she-bear in the act of parturition.[72] The male remains in his retreat for forty days, the female four months. If they happen to have no den, they construct a retreat with branches and shrubs, which is made impenetrable to the rain and is lined with soft leaves. During the first fourteen days they are overcome by so deep a sleep, that they cannot be aroused by wounds even. They become wonderfully fat, too, while in this lethargic state. This fat is much used in medicine; and it is very useful in preventing the hair from falling off.[73] At the end of these fourteen days they sit up, and find nourishment by sucking their fore-paws.[74] They warm their cubs, when cold, by pressing them to the breast, not unlike the way in which birds brood over their eggs. It is a very astonishing thing, but Theophrastus believes it, that if we preserve the flesh of the bear, the animal being killed in its dormant state, it will increase in bulk, even though it may have been cooked.[75] During this period no signs of food are to be found in the stomach of the animal, and only a very slight quantity of liquid; there are a few drops of blood only near the heart, but none whatever in any other part of the body.[76] They leave their retreat in the spring, the males being remarkably fat: of this circumstance, however, we cannot give any satisfactory explanation, for the sleep, during which they increase so much in bulk, lasts, as we have already stated, only fourteen days.[77] When they come out, they eat a certain plant, which is known as

their limbs are ill formed, which is correct; but the account here given is greatly exaggerated.—B.

[72] As the birth takes place when the mother is in her winter retreat, it can have been witnessed only when in the menagerie.—B.

[73] This is referred to in B. xxviii. c. 46; this property of the fat of the bear is also mentioned by Galen and by Dioscorides, and it still retains its place among our popular remedies; but it is difficult to conceive that it can have any virtue above other fatty substances of the same consistence.—B.

[74] This, which appears to be a vulgar error, is mentioned by Aristotle, Hist. Anim. B. viii. c. 17; by Ælian, Anim. Nat. B. vi. c. 3; and by Oppian, Halieut. B. ii.—B.

[75] We have a somewhat similar account in the treatise De Mirab. Auscult. p 1155.—B.

[76] Probably from Aristotle, *ubi supra*.—B.

[77] This apparent anomaly has been attempted to be explained, by supposing that the bears lay up a plentiful store of provisions in their winter retreats, which they consume while they remain without exercise.—B.

aros,[78] in order to relax the bowels, which would otherwise become in a state of constipation; and they sharpen the edges of their teeth against the young shoots of the trees. Their eye-sight is dull, for which reason in especial, they seek the combs of bees, in order that from the bees stinging them in the throat and drawing blood, the oppression in the head may be relieved.[79] The head of the bear is extremely weak, whereas, in the lion, it is remarkable for its strength: on which account it is, that when the bear, impelled by any alarm, is about to precipitate itself from a rock, it covers its head with its paws. In the arena of the Circus they are often to be seen killed by a blow on the head with the fist. The people of Spain have a belief, that there is some kind of magical poison in the brain of the bear, and therefore burn the heads of those that have been killed in their public games; for it is averred, that the brain, when mixed with drink, produces in man the rage of the bear.[80] These animals walk on two feet, and climb down trees backwards.[81] They can overcome the bull, by suspending themselves, by all four legs, from its muzzle and horns, thus wearing out its powers by their weight. In no other animal is stupidity found more adroit in devising mischief. It is recorded in our Annals, that on the fourteenth day before the calends of October,[82] in the consulship of M. Piso and M. Messala, Domitius Ahenobarbus, the curule ædile, brought into the Circus one hundred Numidian bears, and as many Æthiopian hunters. I am surprised to find the word Numidian added, seeing that it is well known that there are no bears produced in Africa.[83]

[78] Pliny enumerates, at considerable length, the varieties of aros, in B. xxiv. c. 92; it is also described in B. xix. c. 30; it is probably a species of arum.—B. See pp. 299, 300, N. 47.

[79] This is, of course, without foundation.—B.

[80] This supposed noxious quality is entirely without foundation.—B.

[81] This probably refers more particularly to the mode in which the bear descends from trees or poles, in the supine posture, not, as is the case in most other animals, with the head downwards.—B.

[82] 18th September.

[83] It appears, from the remarks of Cuvier, to be still doubtful whether the bear be really a native of Africa; see Ajasson, vol. vi. p. 457; Lemaire, vol. iii. p. 466.—B.

CHAP. 55. (37.)—THE MICE OF PONTUS AND OF THE ALPS.

The mice of Pontus also conceal themselves during the winter; but only the white ones.[84] I wonder how those authors, who have asserted that the sense of taste in these animals is very acute, found out that such is the fact. The Alpine mice, which are the same size as badgers, also conceal themselves;[85] but they first carry a store of provisions into their retreat. Some writers, indeed, say that the male and female, lying on their backs alternately, hold in their paws a bundle of gnawed herbs, and, the tail of each in its turn being seized by the teeth of the other, in this way, they are dragged into their hole; hence it is, that at this season their hair is found to be rubbed off their backs. There is a similar animal also in Egypt,[86] which sits, in the same way, upon its haunches, and walks on two feet, using the fore feet as hands.

CHAP. 56.—HEDGEHOGS.

Hedgehogs also lay up food for the winter; rolling themselves on apples as they lie on the ground, they pierce one with their quills, and then take up another in the mouth, and so carry them into the hollows of trees. These animals also, when they conceal themselves in their holes, afford a sure sign that the wind is about to change from north-east to south.[87] When they

[84] It is supposed that the white mouse of Pontus, mentioned also by Aristotle, Hist. Anim. B. viii. c. 17, is the ermine, or else the marten; but, as Cuvier remarks, Ajasson, vol. vi. p. 457, Lemaire, vol. iii. p. 467, the ermine does not hibernate.—B.

[85] Cuvier, *ubi supra*, conceives that the Alpine mouse is the marmot; but he remarks, that it is inferior in size to the badger.—B.

[86] Cuvier, *ubi supra*, conceives the Egyptian mouse to be the jerboa, the Mus jaculus of Linnæus; but it is much smaller than the marmot. Pliny, in B. x. c. 85, says, that the Egyptian mouse walks on two feet, as does the mouse of the Alps. Aristotle, Hist. Anim. B. vii. c. 37, and Ælian, Anim. Nat. B. xv. c. 26, refer to the mouse of Egypt.—B. Probably the Mus cahirinus.

[87] The faculty which these and other animals possess of foreseeing the weather and the future direction of the wind, is mentioned by Plutarch, and as existing especially in the hedgehog. It is also mentioned by Aristotle, Hist. Anim. B. ix. c. 6; but it is not confined, as Pliny states, to its change in one direction only. It has been suggested by some commentators, that, by a slight alteration in the text, the statement may be extended to a change of the wind in either direction, Lemaire, vol. iii. p. 168.—B.

perceive the approach of the hunter, they draw in the head and feet, and all the lower part of the body, which is covered by a thin and defenceless down only, and then roll themselves up into the form of a ball, so that there is no way of taking hold of them but by their quills. When they are reduced to a state of desperation, they discharge a corrosive urine, which injures their skin and quills, as they are aware that it is for the sake of them that they are hunted. A skilful hunter, therefore, will only pursue them when they have just discharged their urine. In this case the skin retains its value; while in the other case, it becomes spoilt and easily torn, the quills rotting and falling off, even though the animal should escape with its life. For this reason it is that it never moistens itself with this poisonous fluid, except when reduced to the last stage of desperation; for it has a perfect hatred for its own venomous distillation, and so careful is the animal, so determined to wait till the very last moment, that it is generally caught before it has employed this means of defence.

They force it to unroll itself, by sprinkling warm water upon it, and then, suspended by one of its hind legs, it is left to die of hunger; for there is no other mode of destroying it, without doing injury to its skin. This animal is not, as many of us imagine, entirely useless to man. If it were not for the quills which it produces, the soft fleece of the sheep would have been given in vain to mankind; for it is by means of its skin, that our woollen cloth is dressed. From the monopoly of this article, great frauds and great profits have resulted;[88] there is no subject on which the senate has more frequently passed decrees, and there is not one of the Emperors, who has not received from the provinces complaints respecting it.[89]

[88] The teasel, or carding thistle, is now used for this purpose; as also iron wires, crooked and sharpened at the point. Not a single quill, probably of the hedgehog, is now used in the manufacture of cloth.

[89] Dalechamps suggests that these complaints were probably to the effect that thistles and thorns were employed instead of the quills of the hedgehog; that the skin of the hedgehog was brought to market in a bad state; and again, that the rich merchants were in the habit of buying them up, and forestalling the market. Hardouin quotes an edict of the Emperor Zeno against monopolies of hedgehogs and carding materials, if, indeed, that is the meaning of the word "pectinum."

CHAP. 57. (38.)—THE LEONTOPHONUS, AND THE LYNX.[90]

There are also two other animals, whose urine possesses very wonderful properties. We have heard speak of a small animal, to which the name of leontophonus[91] has been given, and which is said to exist only in those countries where the lion is produced; if its flesh is only tasted by the lion, so intensely venomous is its nature, that this lord of the other quadrupeds instantly expires. Hence it is, that the hunters of the lion burn its body to ashes, and sprinkle a piece of flesh with the powder, and so kill the lion by means of the ashes even—so fatal to it is this poison! The lion, therefore, not without good reason hates the leontophonus, and after destroying its sight, kills it without inflicting a bite: the animal, on the other hand, sprinkles the lion with its urine, being well aware that this too is fatal to it.

The urine of the lynx, in the countries[92] where that animal is produced, either becomes crystallized, or else hardens into a precious stone, resembling the carbuncle, and which shines like fire.[93] This is called lyncurium;[94] and hence it is, that many persons believe that this is the way in which amber is produced. The lynx, being well aware of this property, envies us the possession of its urine, and therefore buries it in the earth;[95] by this, however, it becomes solid all the sooner.

CHAP. 58.—BADGERS AND SQUIRRELS.

The badger, when alarmed, shows its fear by a different kind of artifice; inflating the skin, it distends it to such a degree, as to repel equally the blows of men and the bite of dogs.[96] The squirrel, also, has the power of foreseeing storms,

[90] These statements are from the treatise De Mirab. Ausc., but, as Cuvier remarks, are fabulous, Lemaire, vol. iii. p. 470; Ajasson, vol. vi. p. 458.—B.

[91] Λεοντοφονὸς, the "lion-killer."

[92] See c. 30 of this Book.

[93] This fable is referred to by Ovid, Metam. B. xv. l. 414, and by Theophrastus in his Treatise on Stones.

[94] See B. xxxvii. c. 11.

[95] It is not unusual for animals to cover their excrements with earth, probably from the fact of their being annoyed by the unpleasant odour. —B.

[96] This statement respecting the "meles," or badger, as well as what is said of the prescience of the squirrel, is without foundation. There has

and so, stopping up its hole at the side from which the wind blows, it leaves the other side open; besides which, the tail, which is furnished with longer hair than the rest of the body, serves as a covering for it. It appears, therefore,[96*] that some animals lay up a store of food for the winter, while others pass the time in sleep, which serves them instead of food.

CHAP. 59. (39.)—VIPERS AND SNAILS.

It is said, that the viper is the only one among the serpents that conceals itself in the earth; the others lurking either in the hollows of trees or in holes in the rocks.[97] Provided they are not destroyed by cold, they can live there, without taking food, for a whole year.[98] During the time that they are asleep in their retreat, none of them are venomous.

A similar state of torpor exists also in snails. These animals again become dormant during the summer, adhering very powerfully to stones; and even, when turned up and pulled away from the stones, they will not leave their shells. In the Balearic isles, the snails which are known as the cave-snail,[99] do not leave their holes in the ground, nor do they feed upon any green thing, but adhere to each other like so many grapes. There is another less common species also, which is closed by an operculum that adheres to the shell.[1] These animals always burrow under the earth, and were formerly never found, except in the environs of the Maritime Alps; they have, however, of late been dug up in the territory of Liternum;[2] the

been some difference of opinion respecting the identity of the animal, which Pliny calls "meles;" by some it has been supposed to be the polecat, or else the weasel.—B.

[96*] This bears reference to what is said of bears in c. 54, and of Alpine mice and hedgehogs.

[97] This statement is contrary to the account given by Aristotle, Hist. Anim. B. viii. c. 15; he says, that while other serpents conceal themselves in holes in the earth, vipers conceal themselves under rocks.—B.

[98] Cuvier remarks, Ajasson, vol. vi. p. 458, Lemaire, vol. iii. p. 473, that nothing is more striking, either to the vulgar or to the man of science, than the long abstinence from food which serpents are capable of enduring.—B.

[99] Cavatica.

[1] This is the case with the Helix Pomatia, and still more so with the Helix Neritoidea, which is very common in the neighbourhood of Nice, and which, at the approach of winter, is furnished with an operculum of great thickness.—B.

[2] See B. iii. c. 9.

most valued, however, of all, are those of the island of Astypalæa.[3]

CHAP. 60.—LIZARDS.[4]

It is said, that the lizard, the greatest enemy of all to the snail, never prolongs its life beyond six months. The lizards of Arabia are a cubit in length,[5] while those upon Nysa,[6] a mountain of India, are twenty-four feet long, their colour being either yellow, purple, or azure blue.

CHAP. 61. (40.)—THE QUALITIES OF THE DOG; EXAMPLES OF ITS ATTACHMENT TO ITS MASTER; NATIONS WHICH HAVE KEPT DOGS FOR THE PURPOSES OF WAR.

Among the animals, also, that are domesticated with mankind, there are many circumstances that are far from undeserving of being known: among these, there are more particularly that most faithful friend of man, the dog, and the horse. We have an account of a dog that fought against a band of robbers, in defending its master; and although it was pierced with wounds, still it would not leave the body, from which it drove away all birds and beasts. Another dog, again, in Epirus, recognized the murderer of its master, in the midst of an assemblage of people, and, by biting and barking at him, extorted from him a confession of his crime. A king of the Garamantes also was brought back from exile by two hundred dogs, which maintained the combat against all his opponents. The people of Colophon[7] and Castabala[8] kept troops of dogs, for the purposes of war; and these used to fight in the front rank, and never retreat; they were the most faithful of auxiliaries, and yet required no pay. After the defeat of the Cimbri, their dogs defended their moveable houses, which were carried upon waggons. Jason, the Lycian, having been slain,

[3] See B. iv. c. 23. The Romans valued them as a delicate food.

[4] This account appears to be principally from Aristotle, Hist Anim. B. v. c. 29.—B.

[5] According to Cuvier, Ajasson, vol. vi. p. 458, and Lemaire, vol. iii. p. 475, the species of lizard named monitor, frequently exceeds this size; but he remarks, in reference to the size of the Indian lizard, that none of the saurians, except the crocodile, attains the length here mentioned.—B.

[6] See B. vi. c. 23.

[7] See B. v. c. 31.

[8] See B. v. c. 22, and B. vi. c. 3.

his dog refused to take food, and died of famine. A dog, to which Darius gives the name of Hyrcanus, upon the funeral pile of King Lysimachus being lighted, threw itself into the flames,[9] and the dog of King Hiero did the same. Philistus also gives a similar account of Pyrrhus, the dog of the tyrant Gelon: and it is said, also, that the dog of Nicomedes, king of Bithynia, tore Consingis,[10] the wife of that king, in consequence of her wanton behaviour, when toying with her husband.

Among ourselves, Volcatius, a man of rank, who instructed Cascellius in the civil law,[11] as he was riding on his Asturian jennet, towards evening, from his country-house, was attacked by a robber, and was only saved by his dog. The senator Cælius,[12] too, while lying sick at Placentia, was surprised by armed men, but received not a wound from them until they had first killed his dog. But a more extraordinary fact than all, is what took place in our own times, and is testified by the public register of the Roman people. In the consulship of Appius Junius and P. Silius, when Titius Sabinus[13] was put to

[9] This anecdote is referred to by Ælian, Anim. Nat. B. vi. c. 25. He gives an account of the dog of Gelon, Anim. Nat. B. vi. c. 62, and Var. Hist. B. i. c. 13.—B.

[10] Tzetzes, Chil. iii. of his History, calls her Ditizela, and thus alludes to this story: "The said Nicomedes had a dog of very large size, and of Molossian breed, which manifested great fidelity to him. One day seeing his mistress, the wife of Nicomedes, and the mother of Prusias, Zielus, and Lysandra, Ditizela, by name, and a Phrygian by birth, toying with the king, he took her for an enemy, and rushing on her, tore her right shoulder." It is supposed that she died of the injuries thus received. Some editions call her Condingis, and others Cosingis.

[11] A. Cascellius was an eminent Roman jurist, but nothing seems to be known of his preceptor, Volcatius, whose prænomen is thought to have been Mucius. Cascellius was noted for his great eloquence and his stern republican principles; and of Cæsar's conduct and government he spoke with the greatest freedom. He never advanced in civic honours beyond the quæstorship, though he was offered the consulship by Augustus; which he declined. He is frequently quoted in the Digest. Horace, in his Art of Poetry, ll. 371, 372, pays a compliment to the legal reputation of Cascellius, who is also mentioned by Valerius Maximus and Macrobius.

[12] From Ælian, Hist. Anim. B. vii. c. 10, it appears that his name was Cælius Calvus, but probably no further particulars are known of him.

[13] He was a distinguished Roman eques, and a friend of Germanicus; for which reason he incurred the hatred of Sejanus. To satisfy the vengeance of Tiberius and his favourite Sejanus, one Latinus Latiaris, a supposed friend of Sabinus, induced him to speak in unguarded terms of Sejanus and Tiberius, and then betrayed his confidence. He was put to death in prison.

death, together with his slaves, for the affair of Nero, the son of Germanicus, it was found impossible to drive away a dog which belonged to one of them from the prison; nor could it be forced away from the body, which had been cast down the Gemitorian steps;[14] but there it stood howling, in the presence of vast multitudes of people; and when some one threw a piece of bread to it, the animal carried it to the mouth of its master. Afterwards, when the body was thrown into the Tiber, the dog swam into the river, and endeavoured to raise it out of the water; quite a throng of people being collected to witness this instance of an animal's fidelity.

Dogs are the only animals that are sure to know their masters; and if they suddenly meet him as a stranger, they will instantly recognize him. They are the only animals that will answer to their names, and recognize the voices of the family. They recollect a road along which they have passed, however long it may be. Next to man, there is no living creature whose memory is so retentive. By sitting down on the ground, we may arrest their most impetuous attack, even when prompted by the most violent rage.

In daily life we have discovered many other valuable qualities in this animal; but its intelligence and sagacity are more especially shown in the chase. It discovers and traces out the tracks of the animal, leading by the leash[15] the sportsman who accompanies it straight up to the prey; and as soon as ever it has perceived it, how silent it is, and how secret but significant is the indication which it gives, first by the tail and afterwards by the nose![16] Hence it is, that even when worn out with old age, blind, and feeble, they are carried by the huntsman in his arms, being still able to point out the coverts where the game is concealed, by snuffing with their muzzles at the wind. The Indians raise a breed between the dog and the tiger,[17] and for this purpose tie up the females in the forests

[14] More commonly called the Gradus or Scalæ Gemoniæ, "the stairs of wailing;" a place down which the bodies of the criminals were thrown, when executed in prison.—B.

[15] "Lorum," the leather thong by which the dogs were held until the proper moment, when they were "let slip" upon their prey.

[16] This is mentioned by Gratian, Cyneget. I. 237.—B.

[17] This practice is mentioned by Aristotle, Hist. Anim. B. viii. c. 33, and Diodorus Siculus, B. xvii. But Cuvier informs us, that neither the tiger nor the panther are capable of generating with the dog; he supposes

when in heat. The first two litters they look upon as too savage to be reared, but they bring up the third.

The Gauls do the same with the wolf and the dog;[18] and their packs of hounds have, each of them, one of these dogs, which acts as their guide and leader. This dog they follow in the chase, and him they carefully obey; for these animals have even a notion of subordination among themselves. It is asserted that the dogs keep running when they drink at the Nile, for fear of becoming a prey to the voracity of the crocodile.[19] When Alexander the Great was on his Indian expedition, he was presented by the king of Albania with a dog of unusual size; being greatly delighted with its noble appearance, he ordered bears, and after them wild boars, and then deer, to be let loose before it; but the dog lay down, and regarded them with a kind of immoveable contempt. The noble spirit of the general became irritated by the sluggishness thus manifested by an animal of such vast bulk, and he ordered it to be killed. The report of this reached the king, who accordingly sent another dog, and at the same time sent word that its powers were to be tried, not upon small animals, but upon the lion or the elephant; adding, that he had had originally but two, and that if this one were put to death, the race would be extinct. Alexander, without delay, procured a lion, which in his presence was instantly torn to pieces. He then ordered an elephant to be brought, and never was he more delighted with any spectacle; for the dog, bristling up its hair all over the body, began by thundering forth a loud barking, and then attacked the animal, leaping at it first on one side and then on the other, attacking it in the most skilful manner, and then again retreating at the opportune moment, until at last the elephant, being rendered quite giddy by turning round and round, fell to the earth, and made it quite re-echo with his fall.

that the account was invented to enhance the value of the spotted or striped dogs, which were brought from India.—B.

[18] The dog is capable of generating with the wolf; and as what is termed the shepherd's dog much resembles the wolf, Cuvier conceives it not impossible, that it may have originated from this mixture; Ajasson, vol. vi. p. 459; Lemaire, vol. iii. p. 481.—B.

[19] This is mentioned by Ælian, in his Anim. Nat. B. vi. c. 53, and his Var. Hist. B. i. c. 4. It likewise forms the subject of one of Phædrus's Fables.

CHAP. 62.—THE GENERATION OF THE DOG.[20]

This animal brings forth twice in the year; it is capable of bearing young when a year old, and gestation continues for sixty days. The young ones are born blind, and the greater the supply of nourishment from the mother's milk, the more slowly do they acquire their sight; still, however, this never takes place later than the twentieth day, or earlier than the seventh. It is said by some writers, that if only one is born, it is able to see on the ninth day; and that if there are two, they begin to see on the tenth, every additional one causing the power of seeing to come a day later. It is said, too, that the females which are produced by the mother in her first litter, are subject to the night-mare.[21] The best dog of the litter is the one which is last in obtaining its sight, or else the one which the mother carries first into her bed.

CHAP. 63.—REMEDIES AGAINST CANINE MADNESS.[22]

Canine madness is fatal to man during the heat of Sirius,[23] and, as we have already said, it proves so in consequence of those who are bitten having a deadly horror of water.[24] For this reason, during the thirty days[25] that this star exerts its influence, we try to prevent the disease by mixing dung from

[20] These statements are probably, for the most part, from Aristotle, Hist. Anim, B. v. c. 14, and B. vi. c. 20.—B.

[21] "Faunos cerni." Hardouin remarks on these words; "Flitting before the sight, and rushing upon each other, like the Ephialtes," and refers, for a farther explanation, to his commentary on the passage in B. xxv. c. 10, where the subject is treated more at large. The Ephialtes is generally supposed to have been what we term incubus or nightmare.—B.

[22] All these remedies are perfectly useless.—B.

[23] Pliny details the noxious effects, conceived to be produced by the influence of Sirius, in B. ii. c. 40, and, among others, its tendency to produce canine madness. In B. xxix. c. 32, he enumerates the various remedies proposed for the disease; these, however, are equally inefficacious with those mentioned here.—B.

[24] We have an account of this disease in Celsus, B. v. c. 27, and especially of the peculiar symptom from which it derives its classical denomination. It is remarkable that Aristotle, Hist. Anim. B. viii. c. 22, speaking of canine madness, says, that it is communicated by the dog to all animals, *except man*.—B. See B. vii. c. 13?

[25] It appears that there was a difference of opinion as to the number of days during which the Dog-star continued to exercise its influence.—B.

the poultry-yard with the dog's food; or else, if they are already attacked by the disease, by giving them hellebore.

(41.) We have a single remedy against the bite, which has been but lately discovered, by a kind of oracle, as it were—the root of the wild rose, which is called cynorrhodos,[26] or dog-rose. Columella informs us, that if, on the fortieth day after the birth of the pup, the last bone of the tail is bitten off, the sinew will follow with it; after which, the tail will not grow, and the dog will never become rabid.[27] It is mentioned, among the other prodigies, and this I take to be one indeed, that a dog once spoke;[28] and that when Tarquin was expelled from the kingdom, a serpent barked.

CHAP. 64. (42.)—THE NATURE OF THE HORSE.

King Alexander had also a very remarkable horse;[29] it was called Bucephalus, either on account of the fierceness of its aspect, or because it had the figure of a bull's head marked on its shoulder. It is said, that he was struck with its beauty when he was only a boy, and that it was purchased from the stud of Philonicus, the Pharsalian, for thirteen talents.[30] When it was equipped with the royal trappings, it would suffer no one except Alexander to mount it, although at other times it would allow any one to do so. A memorable circumstance connected with it in battle is recorded of this horse; it is said that when it was wounded in the attack upon Thebes, it would not allow Alexander to mount any other horse. Many other circumstances, also, of a similar nature, occurred respecting it; so that when it died, the king duly performed its obsequies, and built around its tomb a city, which he named after it.[31]

It is said, also, that Cæsar, the Dictator, had a horse, which

[26] The history of this supposed discovery is related more at large, B. xxv. c. 2 and 6. The popular name of the plant is still the "dog-rose."—B.

[27] Columella says, that the operation prevents the tail from acquiring "fœdum incrementum," "a foul increase;" and, as many shepherds say, secures the animal from the disease.—B.

[28] This is one of the marvellous tales related by Julius Obsequens, c. 103.—B.

[29] Plutarch, in his Life of Alexander, gives some account of this celebrated horse, and Aulus Gellius, B. v. c. 2, devotes a chapter to it.—B.

[30] Ajasson estimates the price to have been 70,200 francs, £2925 sterling.—B.

[31] Situate on the river Hydaspes; Q. Curtius calls it Bucephalus.—B. See B. vi. c. 23, where it is called Bucephala.

would allow no one to mount but himself, and that its fore-feet were like those of a man; indeed it is thus represented in the statue before the temple of Venus Genetrix.[32] The late Emperor Augustus also erected a tomb to his horse; on which occasion Germanicus Cæsar[33] wrote a poem, which still exists. There are at Agrigentum many tombs of horses, in the form of pyramids.[34] Juba informs us, that Semiramis was so greatly enamoured of a horse, as to have had connection with it.[35] The Scythian horsemen make loud boasts of the fame of their cavalry. On one occasion, one of their chiefs having been slain in single combat, when the conqueror came to take the spoils of the enemy, he was set upon by the horse of his opponent, and trampled on and bitten to death. Another horse, upon the bandage being removed from his eyes, found that he had covered his mother, upon which he threw himself down a precipice, and was killed. We learn, also, that for a similar cause, a groom was torn to pieces, in the territory of Reate.[36] For these animals have a knowledge of the ties of consanguinity, and in a stud a mare will attend to its sister of the preceding year, even more carefully than its mother.

Their docility, too, is so great, that we find it stated that the whole of the cavalry of the Sybarite army were accustomed to perform a kind of dance to the sound of musical instruments. These animals also foresee battles; they lament over their masters when they have lost them, and sometimes shed tears[37] of regret for them. When King Nicomedes was slain, his horse put an end to its life by fasting. Phylarchus relates,

[32] This account is given by Suetonius, Life of Julius Cæsar, c. 61. Cuvier suggests that the hoofs may have been notched, and that the sculptor probably exaggerated the peculiarity, so as to produce the resemblance to a human foot.—B.

[33] The nephew of Tiberius and the father of the Emperor Caligula.—B.

[34] Ælian, Hist. Anim. B. xii. c. 40, states that three mares of Miltiades and Evagoras, which had been victorious in the Olympic games, were buried with sepulchral honours in the Ceramicus.—B.

[35] Ajasson suggests, with much plausibility, that when connections of this description are mentioned, the report originated from persons who had significant names, as Lebœuf and Poulain; analogous to our names of Lamb, Bull, Hog, &c.—B.

[36] See B. iii. c. 17.

[37] We here find Pliny tripping, for he has previously said, in B. vii. c. 1, that man is the only animated being that sheds tears. See also c. 19 of the present Book, where he represents the lion as shedding tears.

that Centaretus,[38] the Galatian, after he had slain Antiochus in battle, took possesion of his horse, and mounted it in triumph; upon which the animal, inflamed with indignation, regardless of the rein and become quite ungovernable, threw itself headlong down a precipice, and they both perished together. Philistus relates, that Dionysius having left his horse stuck fast in a morass, the animal, as soon as it disengaged itself, followed the steps of its master, with a swarm of bees, which had settled on its mane; and that it was in consequence of this portent, that Dionysius gained possession of the kingdom.[39]

CHAP. 65.—THE DISPOSITION OF THE HORSE; REMARKABLE FACTS CONCERNING CHARIOT HORSES.

These animals possess an intelligence which exceeds all description.[40] Those who have to use the javelin are well aware how the horse, by its exertions and the supple movements of its body, aids the rider in any difficulty he may have in throwing his weapon. They will even present to their master the weapons collected on the ground. The horses too, that are yoked to the chariots in the Circus, beyond a doubt, display remarkable proofs how sensible they are to encouragement and to glory. In the Secular games, which were celebrated in the Circus, under the Emperor Claudius, when the charioteer Corax, who belonged to the white party,[41] was thrown from his place at the starting-post, his horses took the lead and kept it, opposing the other chariots, overturning them, and doing every thing against the other competitors that could have been done, had they been guided by the most skilful charioteer; and while we quite blushed to behold the skill of man excelled by that of the horse, they arrived at the goal, after going over the whole of the prescribed course. Our ancestors considered it as a still more remarkable portent, that

[38] Ælian calls him Centoarates. Antiochus I., or Soter, is here alluded to. He was killed in battle with the Galli or Galatians, B.C. 261.

[39] Mentioned by Cicero, De Divin. B. i. c. 33.—B.

[40] Hardouin refers to the works of Busbequius, in which we meet with nearly the same account of the sagacity of the horse, as in Pliny; Lemaire, iii. 489.

[41] As already mentioned in the Note to c. 54 of the last Book, there were four parties or factions of the charioteers who were named from the colour of their dress.

when a charioteer had been thrown from his place, in the plebeian games of the Circus,[42] the horses ran to the Capitol, just as if he had been standing in the car, and went three times round the temple there. But what is the greatest prodigy of all, is the fact that the horses of Ratumenna came from Veii to Rome, with the palm branch and chaplet, he himself having fallen from his chariot, after having gained the victory; from which circumstance the Ratumennian gate derived its name.[43]

When the Sarmatæ are about to undertake a long journey, they prepare their horses for it, by making them fast the day before, during which they give them but little to drink; by these means they are enabled to travel on horseback, without stopping, for one hundred and fifty miles. Some horses are known to live fifty years; but the females are not so long-lived.[44] These last come to their full growth at the fifth year, the males a year later. The poet Virgil has very beautifully described the points which ought more especially to be looked for, as constituting the perfection of a horse;[45] I myself have also treated of the same subject, in my work[45*] on the Use of the Javelin by Cavalry, and I find that pretty nearly all writers are agreed respecting them.[46] The points requisite for the Circus are somewhat different, however; and while horses are put in training for other purposes at only two years old, they are not admitted to the contests of the Circus before their fifth year.

CHAP. 66.—THE GENERATION OF THE HORSE.[47]

The female of this animal carries her young for eleven months, and brings forth in the twelfth. The connection takes place at the vernal equinox, and generally in both sexes, at the age of two years; but the colt is much stronger when the parents are three years old. The males are capable of cover-

[42] The games of the Circus were divided into the Patrician and the Plebeian; the first being conducted by generals, consuls, and the curule ædiles, the latter by the ædiles of the people.—B.

[43] Related somewhat more at large by Plutarch, in his Life of Publicola.—B.

[44] Many of these particulars are from Aristotle, Hist. Anim. B. vi. c. 22.—B.

[45] Georgics, B. iii. l. 72, *et seq.*—B.

[45*] See Introduction to vol. i. p. vii.

[46] Varro, de Re Rust. B. ii. c. 7; and Columella, B. vi. c. 29, have treated on this subject at considerable length.—B.

[47] The materials of this chapter appear to have been principally taken from Aristotle, Varro, and Columella.—B.

ing up to the thirty-third year, and it is not till after the twentieth that they are taken for this purpose from the Circus. At Opus,[48] it is said, a horse served as a stallion until his fortieth year; though he required some assistance in raising the fore part of the body. There are few animals, however, in which the generative powers are so limited, for which reason it is only admitted to the female at certain intervals;[49] indeed it cannot cover as many as fifteen times in the course of one year.[50] The sexual passion of the mare is extinguished by cropping her mane; she is capable of bearing every year up to the fortieth. We have an account of a horse having lived to its seventy-fifth year. The mare brings forth standing upright, and is attached, beyond all other animals, to her offspring. The horse is born with a poisonous substance on its forehead, known as hippomanes,[51] and used in love philtres; it is the size of a fig, and of a black colour; the mother devours it immediately on the birth of the foal, and until she has done so, she will not suckle it. When this substance can be rescued from the mother, it has the property of rendering the animal quite frantic by the smell. If a foal has lost its mother, the other mares in the herd that have young, will take charge of the orphan. It is said that the young of this animal cannot touch the earth with the mouth for the first three days after its birth. The more spirited a horse is, the deeper does it plunge its nose into the water while drinking. The Scythians prefer mares for the purposes of war, because they can pass their urine without stopping in their career.

[48] See B. iv. c. 12.

[49] Varro, *ubi supra*, gives considerably different directions on this point; he says, "Intercourse is to be allowed, at the proper season of the year, twice a day, morning and evening."

[50] This sentence in Columella, *ubi supra*, seems to illustrate the meaning, which is somewhat obscure: "Veruntamen nec minus quam quindecim, nec plures quam viginti, unus debet implere"—"One male ought to be coupled with not more than twenty females, nor less than fifteen."

[51] Cuvier states, that the hippomanes is a concretion occasionally found in the liquor amnii of the mare, and which it devours, from the same kind of instinctive feeling which causes quadrupeds generally to devour the afterbirth. He remarks, however, that this can have no connection with the attachment which the mother bears to her offspring; Ajasson, vol. vi. p. 459; Lemaire, vol. iii. p. 495. The hippomanes is said to have been employed by the sorceresses of antiquity, as an ingredient in their amatory potions. See Aristotle, Hist. Anim. B. viii. c. 24, and Ælian, Anim. Nat. B. xiv. c. 18.—B. See also B. xxviii. c. 11.

CHAP. 67.—MARES IMPREGNATED BY THE WIND.

It is well known that in Lusitania, in the vicinity of the town of Olisipo[52] and the river Tagus, the mares, by turning their faces towards the west wind as it blows, become impregnated by its breezes,[53] and that the foals which are conceived in this way are remarkable for their extreme fleetness; but they never live beyond three years. Gallicia and Asturia are also countries of Spain; they produce a species of horse known to us as thieldones,[54] and when smaller, asturcones;[55] they have a peculiar and not common pace of their own, which is very easy, and arises from the two legs of the same side being moved together;[56] it is by studying the nature of this step that our horses have been taught the movement which we call ambling.[57] Horses have very nearly the same diseases as men;[58] besides which, they are subject to an irregular action of the bladder, as, indeed, is the case with all beasts of burden.[59]

CHAP. 68. (45.)—THE ASS, ITS GENERATION.

M. Varro informs us that Quintus Axius, the senator, paid for an ass the sum of four hundred thousand sesterces;[60] I am

[52] Now Lisbon. See B. iv. c. 35.

[53] The accounts given, by Phœnician navigators, of the fertility of Lusitania, and the frequency of the mild western breezes, gave rise to the fable here mentioned, which has been generally received by the ancients; and that not merely by the poets, as Virgil, Geor. B. iii. l. 274, 275, but by practical writers, as Varro, B. ii. c. 1, and Columella, B. vi. c. 27. Justin, however, B. xliv. c. 3, attributes the opinion to the great size of the horses, and their remarkable fleetness, from which they were said to be the sons of the wind.—B.

[54] The origin and meaning of this name is not known.—B.

[55] Martial describes the peculiar short, quick step of the "asturco," in one of his Epigrams, B. xiv. Ep. 199.—B.

[56] "Alterno crurum explicatu glomeratio;" it would not be possible to give a literal translation, but we may judge of the meaning by the context. —B. He clearly alludes to a movement like our canter.

[57] "Tolutim carpere incursus;" Hardouin explains this by a reference to Plautus, Asinaria, A. iii. sc. 3, l. 116. "Tolutim ni badizas"—"If you do not amble, lifting up your feet."

[58] Aristotle, Hist. Anim. B. viii. c. 24, gives an account of the diseases of horses.—B.

[59] "Genere veterino;" so called, according to Hardouin, from "vectura," "carriage," as applicable to horses, asses, and mules; Lemaire, vol. iii. p. 497.—B.

[60] There is considerable difficulty in ascertaining the exact amount of

not sure whether this did not exceed the price ever given for any other animal. It is certainly a species of animal singularly useful for labour and ploughing,[61] but more especially for the production of mules.[62] In these animals also, the country in which they are born is taken into consideration; in Greece, those from Arcadia[63] are the most valued; and in Italy, those of Reate.[64] The ass is an animal which is unable to endure cold,[65] for which reason it is that it is never produced in Pontus; nor is it allowed to cover at the vernal equinox, like other cattle, but at the summer solstice. The males are less proper for covering, when out of work. The earliest age at which the females are ever capable of bearing is the thirtieth month, but the usual time begins at the age of three years. The number to which it gives birth is the same as the mare, which it also resembles, in the length of its gestation, and in its mode of bringing forth; but the female will discharge the generative fluid from the womb, being unable to retain it, unless by blows she is forced to run immediately after being covered. They seldom bring forth two at one birth.[66] When the she-ass is about to bring forth, she shuns the light and seeks darkness, in order to escape the observation of man. Asses are capable of breeding throughout the whole of their life, which extends to thirty years. Their attachment to their young is great in the extreme, but their aversion to water is still greater. They will pass through fire to get at their foals, while the very same animal, if the small-

sums of money mentioned by the ancients. We read in Varro, B. ii. c. 1, and B. ii. c. 8, of enormous prices said to have been given for asses, and the particular case of Axius is mentioned, B. iii. c. 2; according to the usual estimate, the sum here mentioned amounts to upwards of £3200 sterling.—B.

[61] See B. xvii. c. 5.

[62] Varro, B. i. c. 20, and B. iii. c. 16, and Columella, B. vii. c. 1, enlarge upon the valuable qualities of the ass for agricultural purposes; Columella, B. vi. c. 37, treats at length upon the production of mules.—B.

[63] See a passage in Plautus, in which the superior excellence of the asses of Arcadia is referred to; Asinaria, A. ii. sc. 2, l. 67.—B.

[64] See B. iii. c. 17.

[65] This property is mentioned by Herodotus, B. iv. c. 28, and by Aristotle, Hist. Anim. B. viii. c. 27, also De Gener. Anim. B. ii. c. 8, and by Strabo, B. vii. The ass is a native of Arabia, and degenerates when brought into a cold climate.—B.

[66] These circumstances appear to have been taken from Aristotle, Hist. Anim. B. v. c. 14, and B. vi. c. 23.—B.

est stream intervenes, will tremble, and not dare so much as to wet even its feet. Nor yet in their pastures will they ever drink at any but the usual watering-place, and they make it their care to find some dry path by which to get at it. They will not pass over a bridge either, when the water can be seen between the planks beneath.[67] Wonderful to relate, too, if their watering-places are changed, though they should be ever so thirsty, they will not drink without being either beaten or caressed. They ought always to have plenty of room for sleeping; for they are very subject to various diseases in their sleep, when they repeatedly throw out their feet, and would immediately lame themselves by coming in contact with any hard substance; so that it is necessary that they should be provided with an empty space. The profit which is derived from these animals exceeds that arising from the richest estate. It is a well-known fact, that in Celtiberia there are some she-asses which have produced to their owners as much as four hundred thousand sesterces.[68] In the rearing of she-mules it is said to be particularly necessary to attend to the colour of the hair of the ears and the eyelids, for, although the rest of the body be all of one colour, the mule that is produced will have all the colours that are found in those parts. Mæcenas was the first person who had the young of the ass served up at his table;[69] they were in those times much preferred to the onager or wild ass;[70] but, since his time, the taste has gone out of fashion. An ass, after witnessing the death of another ass, survives it but a very short time only.

CHAP. 69. (44.)—THE NATURE OF MULES,[71] AND OF OTHER BEASTS OF BURDEN.

From the union of the male ass and the mare a mule is pro-

[67] "Per raritatem eorum translucentibus fluviis."—B.

[68] Upwards of £3200 sterling.—B.

[69] An epigram of Martial, B. xiii. Ep. 97, appears to refer to the employment of the young ass as an article of food.—B. The famous sausages of Bologna are made, it is said, of asses' flesh.

[70] The onager, according to Cuvier, is the same with the ass, in the wild state; it still exists in large herds in various parts of Southern Asia, and is called by the Tartars, Kulan.—B.

[71] Most of the circumstances here mentioned appear to have been taken from Aristotle, Hist. Anim. B. vi. c. 24 and 36; Varro, B. ii. c. 8; and Columella, B. vi. c. 37.—B.

duced in the thirteenth month, an animal remarkable for its strength in laborious work. We are told that, for this purpose, the mare ought not to be less than four years old, nor more than ten. It is said also that these two species will repulse each other, unless the male has been brought up, in its infancy, upon the milk of the other species; for which reason they take the foals away from the mare, in the dark, and substitute for them the male colts of the ass. A mule may also be produced from a horse and a female ass; but it can never be properly broken in, and is incorrigibly sluggish,[72] being in all respects as slow as an old animal. If a mare has conceived by a horse, and is afterwards covered by an ass, the first conception is abortive; but this is not the case when the horse comes after the ass. It has been observed, that the female is in the best state for receiving the male in the seventh day after parturition, and that the males are best adapted for the purpose when they are fatigued.[73] A female ass, which has not conceived before shedding what are called the milk-teeth, is considered to be barren; which is also looked upon as the case when a she-ass does not become pregnant after the first covering. The male which is produced from a horse and a female ass, was called by the ancients "hinnulus," and that from an ass and a mare "mulus."[74] It has been observed that the animal which is thus produced by the union of the two species is of a third species, and does not resemble either of the parents; and that all animals produced in this way, of whatever kind they may be, are incapable of reproduction; she-mules are therefore barren. It is said, indeed, in our Annals, that they have frequently brought forth;[75] but such cases must be looked upon only as prodigies.[76] Theophrastus

[72] It is expressly stated by Columella, *ubi supra*, that the mules "produced from a horse and a female ass, are in all respects most like the mother."

[73] This is explained by Columella, *ubi supra*, who remarks, that when a stallion is admitted to a female in the full heat of its passion, it often causes mischief; which is not the case when its ardour has been a little subdued by having been worked for some time.—B.

[74] Varro, *ubi supra*, says: "The produce of a mare and a male ass is a mule, of a horse and a female ass a *hinnus*."

[75] Varro, B. ii. c. 1, alludes to this occurrence; Livy mentions two instances, B. xxvi. c. 23, and B. xxxvii. c. 3; these prodigies were said both to have occurred at Reate.—B.

[76] Herodotus relates two cases, which were regarded as presaging some

says that they commonly bring forth in Cappadocia; but that the animal of that country is of a peculiar species.[77] The mule is prevented from kicking by frequently giving it wine to drink.[78] It is said in the works of many of the Greek writers, that from the union of a mule with a mare, the dwarf mule is produced, which they call "ginnus." From the union of the mare and the wild ass, when it has been domesticated, a mule is produced which is remarkably swift in running, and has extremely hard feet, and a thin body, while it has a spirit that is quite indomitable. The very best stallion of all, however, for this purpose, is one produced from a union of the wild ass and the female domesticated ass. The best wild asses are those of Phrygia and Lycaonia. Africa glories in the wild foals which she produces, as excelling all others in flavour; these are called "lalisiones."[79] It appears from some Athenian records, that a mule once lived to the age of eighty years. The people were greatly delighted with this animal, because on one occasion, when, on the building of a temple in the citadel,[80] it had been left behind on account of its age, it persisted in promoting the work by accompanying and assisting them; in consequence of which a decree was passed, that the dealers in corn were not to drive it away from their sieves.[81]

CHAP. 70. (45.)—OXEN; THEIR GENERATION.

We find it stated, that the oxen of India are of the height

extraordinary event, B. iii. c. 153, and B. vii. c. 57. Juvenal, Sat. xiii. l. 66, and Suetonius, Life of Galba, c. 4, speak of a pregnant mule as a most extraordinary circumstance; it seems to have given rise to a proverbial expression among the Romans.—B.

[77] Cuvier remarks, that there is, in the deserts of Asia, a peculiar animal, with undivided hoofs, the Equus hemionus of naturalists, and the Dgiggetai of the Tartars, which bears a resemblance to our mules, but is not the produce of the horse and the ass; he refers us to Professor Pallas's account of it in Acad. Petrop. Nov. Com. vol. xix. p. 394; Ajasson, vol. vi. p. 461; Lemaire, vol. iii. p. 505.—B.

[78] Pliny repeats this advice in B. xxx. c. 53; it is, of course, entirely without foundation.—B.

[79] The epigram of Martial previously referred to bears this title.—B. See N. 69, p. 324.

[80] This temple was the Parthenon. This anecdote is mentioned by Arist. Hist. Anim. B. vi. c. 24; Ælian, Anim. Nat. B. vi. c. 49.—B.

[81] In which they probably exposed their samples for sale, as our farmers do in small bags. The phrase is ἀπὸ τῶν τηλιῶν, in Aristotle, Hist. Anim. B. vi. c. 24, from whom Pliny takes the story.

of camels, and that the extremity of their horns are four feet asunder. In our part of the world the most valuable oxen are those of Epirus, owing, it is said, to the attention paid to their breed by King Pyrrhus.[82] This perfection was acquired by not permitting them to breed until after their fourth year. By these means he brought them to a very large size, and descendants of this breed are still to be seen at the present day. But in our times, we set heifers to breed in their first year, or, at the latest, in their second. Bulls are fit for breeding in their fourth year; one being sufficient, it is said, for ten cows during the whole year. If the bull, after covering, goes to the right side, the produce will be a male; if to the left, a female.[83] Conception takes place after a single union; but if, by any accident, it should not have taken place, the cow seeks the male again, at the end of twenty days. She brings forth in the tenth month; whatever may be produced before that time cannot be reared. Some writers say, that the birth takes place the very day on which the tenth month is completed. This animal but rarely produces twins. The time of covering begins at the rising of the Dolphin, the day before the nones of January,[84] and continues for the space of thirty days. Sometimes it takes place in the autumn; and among those nations which live upon milk, they manage so as to have a supply of it at all times of the year. Bulls never cover more than twice in the same day. The ox is the only animal that walks backwards while it is feeding; among the Garamantes, they feed in no other manner.[85] The females live fifteen years at the longest, and the males twenty; they arrive at their full vigour in their fifth year. It is said that they are made fat by being

[82] This alleged superiority is mentioned by Aristotle, Hist. Anim. B. iii. c. 91, by Varro, B. ii. c. 5, and by Columella, B. vi. c. 1; but it is remarked by Dalechamps and Hardouin, that the appellation of Pyrrhic given to these oxen, was more probably derived from their red colour, πυῤῥὸς, than from the name of the king. The materials of this chapter are principally from the above writers, especially Aristotle, Hist. Anim. B. vi. c. 21, and B. viii. c. 7.—B.

[83] This singular notion is mentioned by Varro and Columella, *ubi supra*; Cuvier says, that it is the origin of the pretended secret of producing the sexes at pleasure, which was published by Millot; Ajasson, vol. vi. p. 461.—B.

[84] 4th January. See B. xviii. c. 64.

[85] This is mentioned by Herodotus, B. iv. c. 183; this peculiarity in their mode of taking their food is ascribed to the extraordinary length of the horns; it is also mentioned by Ælian, Anim. Nat. B. xvi. c. 33.—B.

washed in warm water, or by having the entrails inflated with air by means of a reed, introduced through an incision in the skin. We must not look upon those kinds as having degenerated, the appearance of which is not so favourable. Those that are bred in the Alps, although very small of body, give a great quantity of milk, and are capable of enduring much labour; they are yoked by the horns, and not by the neck. The oxen of Syria have no dewlap, but they have a hump on the back. Those of Caria also, which is in Asia, are unsightly[86] in appearance, having a hump hanging over the shoulders from the neck; and their horns are moveable;[87] they are said, however, to be excellent workers, though those which are either black or white are condemned as worthless for labour.[88] The horns of the bull are shorter and thinner than those of the ox. Oxen must be broken in when they are three years old; after that time it is too late, and before that time too early. The ox is most easily broken in by yoking it with one that has already been trained.[89] This animal is our especial companion, both in labour generally, and in the operations of agriculture. Our ancestors considered it of so much value, that there is an instance cited of a man being brought before the Roman people, on a day appointed, and condemned, for having killed an ox, in order to humour an impudent concubine of his, who said that she had never tasted tripe; and he was driven into exile, just as though he had killed one of his own peasants.[90]

[86] "Fœdi visu." This is very similar to the expression used by Virgil, Georg. B. iii., when describing the points of an ox, l. 52,—"cui turpi caput"—"the head of which is unsightly"—probably in allusion to its large size.

[87] According to Cuvier, there is an ox, in warm climates, which has a mass of fat on the shoulders, and whose horns are only attached to the skin; Buffon has described it under the name of Zebu; Ajasson, vol. vi. p. 461; Lemaire, vol. iii. p. 512.—B.

[88] "Ad laborem damnantur;" with respect to the colour, Varro, B. ii. c. 5, has the following remarks: "The best colours are black, red, pale red, and white. The latter ones are the most delicate, the first the most hardy. Of the two middle ones, the first is the best, and both are more valuable than the first and last."

[89] We have an account of this process in Columella, B. ii. c. 6.—B.

[90] This anecdote is related by Valerius Maximus, B. viii. c. 1. Virgil, Georg. B. ii. l. 537, speaks of the use of oxen in food, as a proof of the degeneracy of later times, and as not existing during the Golden Age; "Ante Impia quam cœsis gens est epulata juvencis." This feeling is alluded to

The bull has a proud air, a stern forehead, shaggy ears, and horns which appear always ready, and challenging to the combat; but it is by his fore feet that he manifests his threatening anger. As his rage increases, he stands, lashing back his tail[91] every now and then, and throwing up the sand against his belly; being the only animal that excites himself by these means. We have seen them fight at the word of command, and shown as a public spectacle; these bulls whirled about and then fell upon their horns, and at once were up again; then, at other times, they would lie upon the ground and let themselves be lifted up; they would even stand in a two-horsed chariot, while moving at a rapid rate, like so many charioteers.[92] The people of Thessaly invented a method of killing bulls, by means of a man on horseback, who would ride up to them, and seize one of the horns, and so twist their neck. Cæsar the Dictator was the first person who exhibited this spectacle at Rome.

Bulls are selected as the very choicest of victims, and are offered up as the most approved sacrifice for appeasing the gods.[93] Of all the animals that have long tails, this is the only one whose tail is not of proportionate length at the moment of birth; and in this animal alone it continues to grow until it reaches its heels. It is on this account, that in making choice of a calf for a victim, due care is taken that its tail reaches to the pastern joint; if it is shorter than this, the sacrifice is not deemed acceptable to the gods. This fact has also been remarked, that calves, which have been carried to the altar on men's shoulders, are not generally acceptable to the gods; and also, if they are lame, or of a species which is not appropriate,[94] or if they struggle to get away from the

by Ælian, Anim. Nat. B. xii. c. 34, and by Suetonius, Life of Domitian, c. ix.—B.

[91] It is doubtful whether this is the meaning of "alternos replicans orbes," or what indeed is the meaning. Most editions omit "orbes," thus making the matter still worse.

[92] Hardouin supposes that this alludes to the exhibition of oxen hunted at the exhibition of shows and in the Circus, for the gratification of the Roman people.—B.

[93] Referred to by Virgil, Georg. B. ii. ll. 145, 146, "et maxima taurus Victima," "and the bull the largest victim of all."—B.

[94] In reference to this remark, we may mention the passage in Virgil, Æn. B. iii. c. 119, "Taurum Neptuno, taurum tibi, pulcher Apollo." "A bull to thee, Neptune, a bull to thee, beauteous Apollo."

altar. It was a not uncommon prodigy among the ancients, for an ox to speak;[95] upon such a fact being announced to the senate, they were in the habit of holding a meeting in the open air.

CHAP. 71. (46.)—THE EGYPTIAN APIS.[96]

In Egypt an ox is even worshipped as a deity; they call it Apis. It is distinguished by a conspicuous white spot on the right side, in the form of a crescent. There is a knot also under the tongue, which is called "cantharus."[97] This ox is not allowed to live beyond a certain number of years; it is then destroyed by being drowned in the fountain of the priests. They then go, amid general mourning, and seek another ox to replace it; and the mourning is continued, with their heads shaved, until such time as they have found one; it is not long, however, at any time, before they meet with a successor. When one has been found, it is brought by the priests to Memphis. There are two temples appropriated to it, which are called thalami,[98] and to these the people resort to learn the auguries. According as the ox enters the one or the other of these places, the augury is deemed favourable or unfavourable. It gives answers to individuals, by taking food from the hand of those who consult it. It turned away from the hand of Germanicus Cæsar, and not long after he died.[99] In general it lives in secret; but, when it comes forth in public, the multitudes make way for it, and it is attended by a crowd of boys, singing hymns in honour of it; it appears to be sensible of the adoration thus paid to it, and to court it. These crowds, too, suddenly become inspired, and predict future events. Once in the year a female is presented to the ox, which likewise has her appro-

[95] Instances are mentioned by Livy, B. xxxv. c. 21, and by Val. Maximus, B. i. c. 65.—B.

[96] We have an account of Apis in Herodotus, B. iii. c. 28; also in Pomponius Mela, B. i. c. 9; and in Ælian, Anim. Nat. B. xi. c. 10.—B.

[97] "Quem cantharum appellant." According to Dalechamps, "So called from the blackness of the colour, and its resemblance to a beetle." Lemaire, vol. iii. p. 516. He refers the reader to a further account in B. xxx. c. 30.—B.

[98] From the Greek θαλαμοὶ, "bed-chambers."

[99] Tacitus, Ann. B. ii. c. 69, gives an account of the sickness of Germanicus after his return from Egypt, but does not refer to the circumstance here mentioned.—B.

priate marks, although different from those on the male; and it is said that she is always killed the very same day that they find her. There is a spot in the Nile, near Memphis, which, from its figure, they call Phiala;[1] here they throw into the water a dish of gold, and another of silver, every year upon the days on which they celebrate the birth of Apis.[2] These days are seven in number, and it is a remarkable thing, that during this time, no one is ever attacked by the crocodile; on the eighth day, however, after the sixth hour, these beasts resume all their former ferocity.

CHAP. 72. (47.)—SHEEP, AND THEIR PROPAGATION.[3]

Many thanks, too, do we owe to the sheep, both for appeasing the gods, and for giving us the use of its fleece. As oxen cultivate the fields which yield food for man, so to sheep are we indebted for the defence of our bodies. The generative power lasts in both sexes from the second to the ninth year, sometimes to the tenth.[4] The lambs produced at the first birth are but small. The season for coupling, in all of them, is from the setting of Arcturus, that is to say, the third day before the ides of May,[5] to the setting of Aquila, the tenth day before the calends of August.[6] The period of gestation is one hundred and fifty days. The lambs that are produced after this time are feeble; the ancients called those that were born after it, cordi.[7] Many persons prefer the lambs that are born in the winter to those of the spring, because it is of much more consequence that they should have gained strength before the summer solstice than before the winter one; consequently, the sheep is the only animal that is benefitted by being born in the middle of winter. It is the nature of

[1] The "goblet." See B. v. c. 10.

[2] Seneca, Quæst. Nat. B. iv. c. 2, gives an account of this ceremony, but does not refer to the birth of Apis.—B.

[3] The contents of this Chapter appear to be principally from Varro, B. ii. cc. 1, 2, and Columella, B. vii. cc. 2, 3, 4.—B.

[4] This account is probably from Aristotle, Hist. Anim. B. v. c. 14; B. vi. c. 19; and B. ix. c. 3, where we have various particulars respecting the production and mode of life of the sheep.—B.

[5] 13th May. [6] 23rd July.

[7] Varro, *ubi supra*, gives a somewhat different account: "Those lambs are called 'cordi,' which are born after their time, and have remained in the womb, called χορίον from which they take that name."—B.

the ram to reject the young and prefer the old ones, and he himself is more serviceable when old,[8] and when deprived of his horns.[9] He is also rendered less violent by having one horn pierced towards the ear. If the right testicle is tied up, the ram will generate females, and if the left, males.[10] The noise of thunder produces abortion in sheep, if they are left alone; to prevent such accidents, they are brought together into flocks, that they may be rendered less timid by being in company. When the north-east wind blows, males are said to be conceived; and when the south wind, females. In this kind of animal, the mouth of the ram is especially looked to, for whatever may be the colour of the veins under the tongue, the wool of the young one will be of a similar colour.[11] If these veins are many in number, it will be mottled. Any change, too, in their water or drink, will render them mottled.[12]

There are two principal kinds of sheep, the covered[13] and the colonic,[14] or common sheep; the former is the more tender animal, but the latter is more nice about its pastures, for the

[8] The expression "senecta melior," here employed, is limited by Columella, *ubi supra*, to the third year.—B.

[9] Columella, B. vii. c. 8, remarks, "When deprived of his horns he knows himself to be disarmed, as it were, and is not so ready to quarrel and is less vehement in his passion."

[10] Columella, B. vii. c. 23, refers to this practice; he informs us, B. vi. c. 28, that it is practised with respect to the horse. It is also referred to by Aristotle, De Gen. Anim. B. iv. c. 1.—B.

[11] For this we have the authority of Aristotle, *ubi supra*, and of Columella, *ubi supra*, who quotes from Virgil in support of it, Geor. B. iii. l. 387, *et seq.*—B. "Although the ram be white himself, if there is a black tongue beneath the palate, reject him, that he may not tinge the fleece of the young with black spots."

[12] Varro, B. ii. c. 2, remarks, "While the coupling is taking place, you must use the same water; for if it is changed, it will render the wool spotted, and injure the womb."

[13] "Tectæ." The context shews that this means covered with skins or a woollen girth, probably on account of their delicate nature, while the common sheep of husbandry, or the "colonic" sheep, were able to endure the rigour of the weather without any such protection.

[14] The words are *tectum* and *colonicum;* Columella, B. vii. c. 4, uses the terms *molle* and *hirsutum*, and Varro, B. ii. c. 2, *pellitum* and *hirtum*. The first obtained its name from its being covered with skins, to protect its delicate fleece. The colonic is so called, from "colonus," a "husbandman," this kind being so common as to be found in any village; whereas the tectæ were rare.

covered sheep will feed on brambles even. The best coverings for sheep are brought from Arabia.[15]

CHAP. 73. (43.)—THE DIFFERENT KINDS OF WOOL, AND THEIR COLOURS.[16]

The most esteemed wool of all is that of Apulia, and that which in Italy is called Grecian wool, in other countries Italian. The fleeces of Miletus hold the third rank.[17] The Apulian wool is shorter in the hair, and only owes its high character to the cloaks[18] that are made of it. That which comes from the vicinity of Tarentum and Canusium is the most celebrated; and there is a wool from Laodicea, in Asia, of a similar quality.[19] There is no white wool superior to that of the countries bordering on the Padus,[20] nor up to the present day has any wool exceeded the price of one hundred sesterces per pound.[21] The sheep are not shorn in all countries; in some places it is still the custom to pull off the wool.[22] There are various colours of wool; so much so, indeed, that we want terms to express them all. Several kinds, which are called

[15] We have some account of the Arabian sheep in Ælian, Anim. Nat. B. x. c. 4.—B. Columella says, that the wool which was brought over to make these coverings, was only to be obtained at a very great price.

[16] The greatest part of this Chapter appears to be taken, with little variation, from Columella, B. vii. c. 2—4.—B.

[17] Here Pliny differs from Columella, who remarks, B. vii. c. 2, "Our people considered the Milesian, Calabrian, and Apulian wool as of excellent quality, and the Tarentine the best of all."

[18] "Pænula" was a check cloak, used chiefly by the Romans when travelling, instead of the toga, as a protection against the cold and rain. It was used by women as well as men. It was long, and without sleeves, and with only an opening for the head. Women were forbidden by Alexander Severus to wear it in the city. It was made particularly of the woolly substance known as gausapa.

[19] The wool of Laodicea is celebrated by Strabo, B. xii.—B.

[20] Columella, B. vii. c. 2, particularly notices the excellence of the wool of Altinum, situate near the mouth of the Padus or Po. The following epigram of Martial, B. xiv. c. 155, may be presumed to convey the opinion of the respective merits of the different kinds of wool; it is entitled "Lanæ albæ:" "Velleribus primis Apulia; Parma secundis Nobilis; Altinum tertia laudat ovis." "Apulia is famed for its fleeces of the first quality, Parma for the second, while Altinum is praised for those of the third."—B.

[21] About twelve shillings sterling.—B.

[22] Varro remarks, B. ii. c. 2, that the term "vellus," obviously from "vello," "to pluck," proves that the wool was anciently plucked from the sheep, before shearing had been invented.—B.

native,[23] are found in Spain; Pollentia, in the vicinity of the Alps,[24] produces black fleeces of the best quality; Asia, as well as Bætica,[25] the red fleeces, which are called Erythræan; those of Canusium are of a tawny colour;[26] and those of Tarentum have their peculiar dark tint.[27] All kinds of wool, when not freed from the grease,[28] possess certain medicinal properties. The wool of Istria is much more like hair than wool, and is not suitable for the fabrication of stuffs that have a long nap;[29] so too is that which Salacia,[30] in Lusitania, finds the most useful for making its chequered cloths. There is a similar wool, too, found about Piscenæ,[31] in the province of Narbonensis, as also in Egypt; a garment, when it has been worn for some time, is often embroidered with this wool, and will last for a considerable time.

The thick, flocky wool has been esteemed for the manufacture of carpets from the very earliest times; it is quite clear, from what we read in Homer, that they were in use in his time.[32] The Gauls embroider them in a different manner from that which is practised by the Parthians.[33] Wool is

[23] "Quas nativas appellant." The term "nativa," as applied to the wool, has been supposed to refer to those fleeces that possess a natural colour, and do not require to be dyed.—B.

[24] Martial, B. xiv. Ep. 157, calls the fleeces of Pollentia "lugentes," "mournful," from their black colour; they are also mentioned by Columella, *ubi supra*, and by Silius Italicus, B. viii. l. 599.—B.

[25] Martial, B. v. c. 37, describing the charms of a lady, says, "surpassing with her locks the fleece of the Bætic sheep," no doubt referring to the colour. In another Epigram, B. xii. E. 200, he speaks of the "aurea vellera," the "golden fleece" of Bætis.—B.

[26] Martial has two Epigrams on the wool of Canusium, B. xiv. E. 127, and E. 129. In the former it is designated as "fusca," tawny; in the latter, "rufa," red.—B.

[27] "Suæ pulliginis."—B.

[28] The term here used, "succidus," is explained by Varro, B. ii. c. 11: "While the newly-clipped wool has the sweat in it, it is called 'succida.'" See B. xxix. c. 9.

[29] "Pexis vestibus." According to Hardouin, the "pexa vestis," was worn by the rich, and had a long and prominent nap, in contradistinction to the smooth or worn cloths. He refers to a passage in Horace, B. i. Ep. i. l. 95, and to one in Martial, B. ii. E. 58, which appear to sanction this explanation. See Lem. vol. iii. p. 524.—B.

[30] See B. iv. c. 35.

[31] See B. iii. c. 5. Now Pezenas.

[32] Καὶ ῥήγεα καλὰ
Πορφύρ' ἐμβαλέειν, στορέσαι δ' ἐφύπερθε τάπητας.
Od. B. iv. l. 427. "And to throw on fair coverlets of purple, and to lay carpets upon them."

[33] These were probably much like what we call "Turkey" carpets.

compressed also for making a felt,[34] which, if soaked in vinegar,[35] is capable of resisting iron even; and, what is still more, after having gone through the last process,[36] wool will even resist fire; the refuse, too, when taken out of the vat of the scourer, is used for making mattresses,[37] an invention, I fancy, of the Gauls. At all events, it is by Gallic names that we distinguish the different sort of mattresses[38] at the present day; but I am not well able to say at what period wool began to be employed for this purpose. Our ancestors made use of straw[39] for the purpose of sleeping upon, just as they do at present when in camp. The gausapa[40] has been brought into use in my father's memory, and I myself recollect the amphimalla[41] and the long shaggy apron[42] being introduced; but at the present day, the laticlave tunic[43] is beginning to be manufactured, in imitation of the gausapa.[44] Black wool will take no colour.

[34] The name given to this article, "lana coacta," "compressed wool," correctly designates its texture. The manufacturers of it were called "lanarii coactores," and "lanarii coactiliarii."

[35] "I have macerated unbleached flax in vinegar saturated with salt, and after compression have obtained a felt, with a power of resistance quite comparable with that of the famous armour of Conrad of Montferrat; seeing that neither the point of a sword, nor even balls discharged from fire-arms, were able to penetrate it." *Memoir on the substance called Pilina, by Papadopoulo-Vretos, on the Mem. presented to the Royal Academy of Inscriptions and Belles Lettres*, 1845, as quoted by Littré.

[36] Pliny probably conceived that by the removal of all the grease from the wool, or the "purgamentum," it became less combustible.—B.

[37] "Tomentum;" an Epigram of Martial, B. xiv. E. 160, explains the meaning of this word.—B.

[38] See B. xix. c. 2.

[39] Probably in the form of what we call "palliasses."

[40] The "gausapa," or "gausapum," was a kind of thick cloth, very woolly on one side, and used especially for covering tables, beds, and making cloaks to keep out the wet and cold. The wealthier Romans had it made of the finest wool, and mostly of a purple colour. It seems also to have been sometimes made of linen, but still with a rough surface.

[41] From ἀμφίμαλλα, "napped on both sides." They probably resembled our baizes or druggets, or perhaps the modern blanket.

[42] Pliny again makes mention of the "ventrale," or apron, in B. xxvii. c. 28.

[43] He seems to allude here to the *substance* of which the laticlave tunic was made, and not any alteration in its cut or shape. Some further information on the laticlave or broad-striped tunic will be found in B. ix. c. 63.

[44] About the time of Augustus, the Romans began to exchange the "toga," which had previously been their ordinary garment, for the more

I shall describe the mode of dyeing the other kinds of wool when speaking of the sea-purple,[45] or of the nature of various plants.[46]

CHAP. 74.—DIFFERENT KINDS OF CLOTHS.

Varro informs us, he himself having been an eye-witness, that in the temple of Sancus,[47] the wool was still preserved on the distaff and spindle of Tanaquil,[48] who was also called Caia Cæcilia; and he says that the royal waved[49] toga, formerly worn by Servius Tullius, and now in the temple of Fortune, was made by her. Hence was derived the custom, on the marriage of a young woman, of carrying in the procession a dressed distaff and a spindle, with the thread arranged upon it. Tanaquil was the first who wove the straight tunic,[50] such as our young people wear with the white toga;[51] newly-married women also. Waved garments were at first the most esteemed of all: after which those composed of various colours[52] came into vogue. Fenestella informs us, that togas with a smooth surface, as well

convenient "lacerna" and "pænula," which were less encumbered with folds, and better adapted for the usual occupations of life.—B.

[45] See B. ix. c. 62. [46] See B. xxi. c. 12.

[47] This deity was also called Sangus, or Semo Sancus; and Ovid, Fasti, B. vi. c. 216, *et seq.*, gives us much information concerning him. He was of Sabine origin, and identical with Hercules and Dius Fidius. If we may judge from the derivation of the name, it is not improbable that he presided over the sanctity of oaths. His temple at Rome was on the Quirinal, opposite to that of Quirinus, and near the gate which from him derived the name of "Sanqualis porta." He was said to have been the father of the Sabine hero Sabus.

[48] According to the commonly received account, Tanaquil was the wife of Tarquinius Priscus, and a native of Etruria; when she removed to Rome, and her husband became king, her name was changed to Caia Cæcilia.—B.

[49] "Undulata;" it has been suggested that this means the same as our stuffs which we term "watered."—B.

[50] "Tunica recta;" according to Festus, it was "so called from being woven perpendicularly by people standing."—B. It probably means woven from top to bottom and cross-wise in straight lines.

[51] "Toga pura;" so called from being white, without a mixture of any other colour.

[52] "Sororiculata;" there is much uncertainty respecting the derivation of this word and its meaning, but it is generally supposed to signify some kind of stuff, composed of a mixture of different ingredients or of different colours.—B. "Orbiculata," "with round spots," is one reading, and probably the correct one.

as the Phryxian togas,[53] began to be used in the latter part of the reign of Augustus. Thick stuffs, in the preparation of which the poppy[54] was used, are of more ancient date, being mentioned by the poet Lucilius, in his lines on Torquatus. The prætexta[55] had its origin among the Etrurians. I find that the trabea[56] was first worn by the kings; embroidered garments are mentioned by Homer,[57] and in this class originated the triumphal robes.[58] The Phrygians first used the needle for this purpose,[59] and hence this kind of garment obtained the name of Phrygionian. King Attalus, who also lived in Asia, invented the art of embroidering with gold, from which these garments have been called Attalic.[60] Babylon was very famous for making embroidery in different colours, and hence stuffs of this kind have obtained the name of Babylonian.[61] The method of weaving cloth with more than two threads was in-

[53] According to Hardouin, these were cloths which imitated the crisp and prominent hair of the Phryxian fleece, Lemaire, vol. iii. p. 529. Some editions read "Phrygianas."

[54] "Papaverata;" there is considerable difficulty in ascertaining the meaning of this word, as applied to garments. Pliny, in two other passages, speaks of a certain species of poppy—"from this, linens receive a peculiar whiteness," B. xix. "From this, linens receive a brilliant whiteness in time," B. xx. c. 78. It would appear, in these cases, that the fibres of the stem of the poppy were mixed with the flax; though, perhaps, this would be scarcely practicable with wool.—B.

[55] The prætexta is described by Varro as a white toga, with a purple band; it was worn by males, until their seventeenth year, and by young women until their marriage.—B.

[56] The trabea differed from the prætexta, in being ornamented with stripes (trabeæ) of purple, whence its name.—B.

[57] Helen is introduced, Il. B. iii. l. 125, weaving an embroidered garment, in which were figured the battles of the Greeks and Trojans. It was probably somewhat of the nature of modern tapestry.—B.

[58] See B. ix. c. 60.

[59] This passage, in which the needle is said to have been used, proves that when the word "pictæ" is applied to garments, it is equivalent to our term "embroidered."—B.

[60] Pliny refers to the "Attalica tunica," B. xxxiii. c. 29, and to the "Attalica vestis," B. xxxvi. c. 20, and B. xxxvii. c. 6; Propertius speaks of "Attalica aulæa," B. ii. c. 32, l. 12, "Attalicas torus," B. ii. c. 13, l. 22, and B. iv. c. 5, l. 24, and "Attalicæ vestes," B. iii. c. 18, l. 19.—B.

[61] Plautus, Stich. A. ii. s. 2, l. 54, speaks of "Babylonica peristromata, consuta tapetia," "Babylonian hangings, and embroidered tapestry;" and Martial, B. viii. Ep. 28, l. 17, 18, of "Babylonica texta," "Babylonian textures."—B.

vented at Alexandria; these cloths are called polymita;[62] it was in Gaul that they were first divided into chequers.[63] Metellus Scipio, in the accusation which he brought against Cato,[65] stated that even in his time Babylonian covers for couches were selling for eight hundred thousand sesterces, and these of late, in the time of the Emperor Nero, had risen to four millions.[66] The prætextæ of Servius Tullius, with which the statue of Fortune, dedicated by him, was covered,[67] lasted until the death of Sejanus; and it is a remarkable fact, that, during a period of five hundred and sixty years, they had never become tattered,[68] or received injury from moths. I myself have seen the fleece upon the living animal dyed purple, scarlet, and violet,—a pound and a half[69] of dye being used for each,—just as though they had been produced by Nature in this form, to meet the demands of luxury.

CHAP. 75.—THE DIFFERENT SHAPES OF SHEEP; THE MUSMON.

In the sheep, it is considered a proof of its being of a very

[62] From Martial's epigram, entitled "Cubicularia polymita," B. xiv. Ep. 150, we may conclude that the Egyptian polymita were formed in a loom, and of the nature of tapestry, while the Babylonian were embroidered with the needle. Plautus probably refers to the Egyptian tapestry, in the Pseud. A. i. s. 2, l. 14, "Neque Alexandrina belluata conchyliata tapetia" —"Nor yet the Alexandrine tapestries, figured over with beasts and shells."

[63] "Scutulis divider." This term may mean "squares," "diamonds," or "lozenges," something like the segments into which a spider's web is divided. It is not improbable that he alludes here to the plaids of the Gallic nations.

[65] We have an account of this contention in Plutarch, and we may presume that this accusation was produced at that time.—B.

[66] The first sum amounts to about £4,600 sterling, the latter to £23,000.—B.

[67] The following lines in Ovid, Fasti, B. vi. l. 569, *et seq.*, have been supposed to refer to this temple, and prove that the account of it is correct.

"Lux eadem, Fortuna, tuaque est, auctorque, locusque.
"Sed superinjectis quis latet æde togis?
"Servius est...."

"The same day is thine, O Fortune; the same the builder, the same the site. But who is this that lies hid beneath the garments covering him? It is Servius."

[68] Perhaps "changed their colour" may be a better translation of "defluxisse."

[69] "Sesquipedalibus libris." It seems impossible to translate this literally. Hardouin explains it by supposing that the fleeces were dyed in strips of three colours, each strip being half a foot in breadth, and that three of these required a pound of the dyeing materials.—B.

fair breed, when the legs are short, and the belly is covered with wool; when this part is bare, they used to be called apicæ, and were looked upon as worthless.[70] The tail of the Syrian sheep is a cubit in length,[71] and it is upon that part that most of the wool is found. It is considered too early to castrate lambs before they are five months old.

(49.) There is in Spain, and more especially in Corsica, a peculiar kind of animal called the musmon,[72] not very unlike a sheep, but with a fleece which more resembles the hair of the goat than the wool of the sheep. The ancients gave the name of umbri[73] to the breed between this animal and the sheep. The head of the sheep is the weakest part of all, on which account it is obliged, when it feeds, to turn away from the sun.[74] The animals which are covered with wool are the most stupid of all.[75] When they are afraid to enter any place, if one is only dragged into it by the horns, all the rest will follow. The longest duration of their life is ten years; but in Æthiopia it is thirteen. Goats live in that country eleven years, but in other parts of the world mostly eight years only. Both of these animals require to be covered not more than four times to ensure conception.

CHAP. 76. (50.)—GOATS AND THEIR PROPAGATION.

The goat occasionally brings forth as many as four at a birth; but this is rarely the case.[76] It is pregnant five months,

[70] Pliny probably took this from Varro, B. ii. c. 2. This term is derived from *πείκω*, "to shear," with the negative prefix.—B.

[71] The word "cubitales" alone is used, which might be supposed to refer only to the length of the tail; but Hardouin conceives that it must also apply to the breadth, and refers to Aristotle, Hist. Anim. B. viii. c. 28, and others, in proof of the great size which the tails of the Syrian sheep attain, and which would not be indicated by merely saying that they are a cubit long; this being little more than the ordinary length in other countries.—B.

[72] According to Hardouin, this term, or some word nearly resembling it, was applied to mules or mongrels, as well as to individual animals of diminutive size or less perfect form.—B. Called "moufflon" by the French.

[73] The term "umbri" appears to have been applied to a mongrel or less perfect animal; like "musmon," it is of uncertain derivation.—B.

[74] So also Varro, *ubi supra*, and Columella, B. vii. c. 3.—B. See also B. xviii. c. 76.

[75] This remark, and the others in the remainder of this Chapter, appear to be taken from Aristotle, Hist. Anim. B. ix. c. 3.—B.

[76] We have an account of the generation of the goat in Aristotle, Hist.

like the sheep. Goats become barren when very fat. There is little advantage to be derived from their bringing forth before their third year, or after the fourth, when they begin to grow old.[77] They are capable of generating in the seventh month, and while they are still sucking. In both sexes those that have no horns are considered the most valuable.[78] A single coupling in the day is not sufficient; the second and the following ones are more effectual. They conceive in the month of November, so as to bring forth in the month of March, when the buds are bursting; this is sometimes the case with them when only one year old, and always with those of the second year; but the produce of those which are three years old is the most valuable.[79] They continue to bring forth for a period of eight years. Cold produces abortion. When their eyes are surcharged, the female discharges the blood from the eye by pricking it with the point of a bulrush, and the male with the thorn of a bramble.

Mutianus relates an instance of the intelligence of this animal, of which he himself was an eye-witness. Two goats, coming from opposite directions, met on a very narrow bridge, which would not admit of either of them turning round, and in consequence of its great length, they could not safely go backwards, there being no sure footing on account of its narrowness, while at the same time an impetuous torrent was rapidly rushing beneath; accordingly, one of the animals lay down flat, while the other walked over it.

Among the males, those are the most esteemed which have flat noses and long hanging ears,[80] the shoulders being covered

Anim. B. vi. c. 19. Ælian, Anim. Nat. B. iii. c. 38, says that the goats of Egypt sometimes produce five young ones at a birth.—B.

[77] Columella, B. vii. c. 6, gives a somewhat different account; he says, "Before its sixth year it is old—so that when five years old, it is not suitable for coupling."—B.

[78] According to Columella, *ubi supra*, "Because those with horns are usually troublesome, from their uncertainty of temper."—B.

[79] There has been considerable difference of opinion respecting the reading of the original, whether the word "utiles," or "inutiles," was the one here employed. Hardouin conceives it was the latter, and endeavours to reconcile the sense with this reading; Lemaire, vol. iii. pp. 538, 539. But, notwithstanding his high authority, there is still great doubt on the matter.—B.

[80] "Infractis," probably in contradistinction to erect ears. Columella, *ubi supra*, terms them, "flaccidis et prægrandibus auribus"—"flaccid ears, and very large."—B.

with very thick shaggy hair; the mark of the most valuable among the females is the having two folds [81] hanging down the body from under the neck. Some of these animals have no horns; but where there are horns, the age of the animal is denoted by the number of knots on them. Those that have no horns give the most milk.[82] According to Archelaus,[83] they breathe, not through the nose, but the ears,[84] and they are never entirely free from fever,[85] from which circumstance it is, probably, that they are more animated than sheep, more ardent, and have stronger sexual passions. It is said also, that they have the power of seeing by night as well as in the day, for which reason those persons who are called Nyctalopes,[86] recover the power of seeing in the evening, by eating the liver of the he-goat. In Cilicia, and in the vicinity of the Syrtes, the inhabitants shear the goat for the purpose of clothing themselves.[87] It is said that the she-goats in the pastures will never look at each other at sun-set, but lie with their backs towards one another,[88] while at other times of the day they lie facing each other and in family groups. They all have long hair hanging down from the chin, which is called by us aruncus.[89] If any one of the flock is taken hold of and dragged by this hair, all the rest gaze on in stupid astonishment; and the same

[81] "Laciniæ;" Varro, B. ii. c. 3, describes them as "mammulas pensiles;" Columella, *ubi supra*, calls them "verruculas;" he, however, assigns this appendage to the male goat.—B.

[82] The word "mutilus" is employed, which Hardouin interprets, "having had the horns removed." But the same word is applied by Columella, B. vii. c. 6, to an animal naturally without horns.—B.

[83] On this reference to Archelaus, Dalechamps remarks that he is incorrect; but refers to Varro, *ubi supra*, who ascribes this opinion to Archelaus; Lemaire, vol. iii. p. 540.—B.

[84] Aristotle, Hist. Anim. B. i. c. 9, refers to this opinion, as being erroneous; Ælian, Hist. Anim. B. i. c. 53, supposes that they breathe both through the nose and the ears.—B.

[85] Varro, *ubi supra*, remarks, "that no one in his senses speaks of a goat in health; for they are never without fever."

[86] Meaning those who cannot see at night, who have a weak sight, and therefore require a strong light to distinguish objects. See also, as to the Nyctalopes, B. xxviii. c. 47. The same remedy, the liver of the goat, is recommended for its cure.—B. See also B. xxviii. c. 11.

[87] Aristotle, Hist. Anim. B. viii. c. 28, says that the inhabitants of Cilicia shear the goats in the same manner as the sheep.—B.

[88] This is mentioned by Aristotle, Hist. Anim. B. ix. c. 3.—B.

[89] Aristotle, Hist. Anim. B. ix. c. 3, refers to the beard of the goat, under the name of *ἤρυγγον*.

happens when any one of them has eaten of a certain herb [90] Their bite is very destructive to trees, and they make the olive barren by licking it;[91] for which reason they are not sacrificed to Minerva.[92]

CHAP. 77. (51.)—THE HOG.[93]

The period for coupling the hog lasts from the return of the west wind to the vernal equinox; the proper age commences in the eighth month, indeed, in some places, in the fourth even, and continues until the eighth year.[94] They bring forth twice in the year, the time of gestation being four months; the number at a birth amounts to twenty even, but they cannot rear so large a number.[95] Nigidius informs us, that those which are produced within ten days of the winter solstice are born with teeth. One coupling is sufficient, but it is repeated, on account of their extreme liability to abortion; the remedy for which is not to allow coupling the first time the female is in heat, nor until its ears are flaccid and pendant. The males do not generate after they are three years old. When the females become feeble from old age, they receive the males lying down.[96] It is not looked upon as anything portentous when they eat their young. The young of the hog is considered in a state of purity for sacrifice when five days old,[97] the lamb on the seventh day, and the calf on the thirtieth. Coruncanius asserts, that ruminant animals are not proper for

[90] According to Hardouin, the herb referred to is the "eryngium;" probably the "eringo:" he cites various authorities in support of his opinion.—B.

[91] This is repeated in B. xvii. c. 24.—B.

[92] Varro, B. i. c. 2, says: "Hence it is that they sacrificed no goats to Minerva, on account of the olive;" he then explains why the circumstance of the goat injuring the olive-tree was a reason for not offering it in sacrifice to Minerva, the patroness of this tree. Ovid, on the other hand, in the Fasti, B. i. l. 360, says that the goat was sacrificed to Bacchus, *because* it gnawed the vine.

[93] We have an account of the hog in Varro, B. ii. c. 4, from whom most of Pliny's remarks are probably derived.—B.

[94] Varro, B. ii. c. 4, and Columella, B. vii. c. 9. fix upon the seventh year.—B.

[95] Varro, and Columella, *ubi supra*, recommend that the sow should not be allowed to rear more than eight young ones at each birth.—B.

[96] Aristotle, Hist. Anim. B. v. c. 13.—B.

[97] Varro, *ubi supra*, says on the tenth day; Hardouin endeavours to prove that the number in Varro was originally five.—B.

victims until they have two teeth.[98] It has been supposed, that when a pig has lost one eye, it will not live long;[99] otherwise, these animals generally live up to fifteen, or sometimes twenty years. They sometimes become mad; besides which, they are liable to other diseases, especially to quinsy[1] and to scrofula.[2] It is an indication that the hog is diseased, when blood is found at the root of a bristle pulled from its back, and when it holds its head on one side while walking. When the female becomes too fat, she has a deficiency of milk; the first litter is always the least numerous. Animals of this kind delight in rolling in the mud.[3] The tail is curled, and it has also been remarked, that those are a more acceptable offering to the gods, whose tail is turned to the right than those which have it turned to the left. They may be fattened in sixty days, and more especially if they have been kept without food for three days before fattening. The swine is by far the most brutish of all the animals, and it has been said, and not unaptly, that life has been given them in place of salt.[4] And yet it has been known, that these animals, when carried away by thieves, have recognized the voice of their keeper; and when a vessel has been under water through the inclination of one of its sides, they have had the sense to go over to the other side. The leader of the herd will even learn to go to market, and to

[98] The term "bidens," employed by Pliny, although it literally means "having two teeth," has been referred to the age of the animal, as indicated rather by the respective size of the teeth than by their number. It has been supposed to designate an animal of two years old, when the canine teeth of the lower jaw had become prominent.—B

[99] This is also referred to by Aristotle, Hist. Anim. B. vi. c. 18, but is without foundation.—B.

[1] Aristotle, *ubi supra*, B. viii. c. 26. It is mentioned as a frequent occurrence by Plautus, Trinum. A. ii. s. 4, l. 139.—B.

[2] Columella, B. vii. c. 10, gives directions for the treatment of hogs affected with scrofula. The name of the disease has been supposed to be derived from the frequency of its occurrence in this animal, anciently called "scrofa."

[3] It may appear unnecessary to refer to authorities on this subject, which is a matter of daily observation; it has, however, been stated by some naturalists, that the hog, in its wild state, does not exhibit any of the filthy propensities so generally observed in it when domesticated.—B.

[4] This saying is found in Varro, B. ii. c. 4; it is referred to by Cicero, De Nat. Deor. B. ii. c. 64, and ascribed to Chrysippus; "ne putisceret, animam ipsam pro sale datam."—B. "That they are only of use for their flesh, which is kept from putridity by their life, which acts as salt."

different houses in the city. In the wild state also, they have the sense to pass their urine in plashy places, that they may destroy all traces of them, and so lighten themselves for flight.[5] The female is spayed, just as is done with the camel; after they have fasted two days, they are suspended by the hind feet, and the orifice of the womb is cut; after this operation, they fatten more quickly.[6]

M. Apicius[7] made the discovery, that we may employ the same artificial method of increasing the size of the liver of the sow, as of that of the goose;[8] it consists in cramming them with dried figs, and when they are fat enough, they are drenched with wine mixed with honey, and immediately killed. There is no animal that affords a greater variety to the palate of the epicure; all the others have their own peculiar flavour, but the flesh of the hog has nearly fifty different flavours. Hence it is, that there are whole pages of regulations made by the censors, forbidding the serving up at banquets of the belly, the kernels,[9] the testicles, the womb, and the cheeks. However, notwithstanding all this, the poet Publius,[10] the author of the Mimes, when he ceased to be a slave, is said to have given no entertainment without serving up the belly of a sow, to which he also gave the name of "sumen."

CHAP. 78.—THE WILD BOAR; WHO WAS THE FIRST TO ESTABLISH PARKS FOR WILD ANIMALS.

The flesh of the wild boar is also much esteemed. Cato,

[5] Pliny speaks of this more at large in B. xxviii. c. 60.—B.

[6] This operation, and the effect of it, are mentioned by Aristotle, Hist. Anim. B. ix. c. 79, and by Columella, B. vii. c. 9.—B.

[7] There were three Romans of this name, celebrated for their skill in gastronomy; of these the most illustrious lived in the reigns of Augustus and Tiberius. A treatise (probably spurious) is extant, to which his name is attached, entitled "De Arte Culinariâ"—"On the Art of Cookery." Pliny refers to him again, B. xix. c. 41, and he is mentioned by many others of the classical writers.—B.

[8] See B. x. c. 1. A much more cruel mode of increasing the liver of this animal, by confining it in hot ovens, is practised at the present day, to satisfy the palate of the admirers of the Strasburg *patés de foies gras.*

[9] Pliny, in B. ix. c. 66, employs the expression "tonsillæ in homine, in sue glandulæ," as if he considered them analogous parts.—B. See Plautus *passim.*

[10] Publius Syrus was a comic performer and a writer, who acquired considerable celebrity; he lived during the reign of Augustus.—B.

the Censor, in his orations, strongly declaimed against the use of the brawn of the wild boar.[11] The animal used to be divided into three portions, the middle part of which was laid by,[12] and is called boar's chine. P. Servilius Rullus was the first Roman who served up a whole boar at a banquet; the father of that Rullus, who, in the consulship of Cicero, proposed the Agrarian law. So recent is the introduction of a thing which is now in daily use. The Annalists have taken notice of such a fact as this, clearly as a hint to us to mend our manners; seeing that now-a-days two or three boars are consumed, not at one entertainment, but as forming the first course only.

(52.) Fulvius Lupinus was the first Roman who formed parks[13] for the reception of these and other wild animals: he first fed them in the territory of Tarquinii: it was not long, however, that imitators were found in L. Lucullus and Q. Hortensius.[14] The wild sow brings forth once only in the year. The males are very fierce during the rutting time; they fight with each other, having first hardened their sides by rubbing them against the trees, and covered themselves with mud. The females, as is the case with animals of every kind, become more fierce just after they have brought forth. The wild boar is not capable of generating before the first year. The wild boar of India[15] has two curved teeth, projecting from beneath the muzzle, a cubit in length; and the same number projecting from the forehead, like the horns of the young bull. The hair of these animals, in a wild state, is the

[11] "Aprugnum callum;" Plautus, in detailing the preparations for a feast, enumerates the following articles, "pernam, callum, glandium, sumen;" Pseudolus, A. i. s. 2, l. 32; all of which are parts of the hog.

[12] "Ponebatur." Littré and Ajasson render this, "placed at table." It would appear, however, that the meaning is that this part was put by for salting, and the other parts were served at table while fresh.

[13] "Vivaria;" Varro, B. iii. c. 12, and Aulus Gellius, B. ii. c. 20, give an account of the different places which were employed by the Romans for preserving animals of various descriptions, with their appropriate designations. Varro names the inventor Fulvius Lippinus.—B.

[14] Varro, B. iii. c. 13, gives an animated description of a visit to what he calls the leporarium of Hortensius, where, besides hares, as the name implies, there was a multitude of stags, boars, and other four-footed animals.

[15] Ælian, De Anim. Nat. B. xvi. c. 37, says, that no boar, either wild or tame, is produced in India, and that the Indians never use the flesh of this animal, as they would regard the use of it with as much horror as of human flesh.—B. The "Sus babiroussa" is probably meant by Pliny.

colour of copper, the others are black. No species whatever of the swine is found in Arabia.

CHAP. 79. (53.)—ANIMALS IN A HALF-WILD STATE.

In no species is the union with the wild animal so easy as in that of the swine; the produce of such unions was called by the ancients hybrid,[16] or half savage; which appellation has also been transferred to the human race, as it was to C. Antonius, the colleague of Cicero in his consulship. Not only, however, with respect to the hog, but all other animals as well, wherever there is a tame species, there is a corresponding wild one as well; a fact which is equally true with reference to man himself, as is proved by the many races of wild men of which we have already spoken.[17] There is no kind of animal, however, that is divided into a greater number of varieties than the goat. There are the capræa,[18] the rupicapra or rock-goat, and the ibex, an animal of wonderful swiftness, although its head is loaded with immense horns, which bear a strong resemblance to the sheath of a sword.[19] By means of these horns the animal balances itself, when it darts along the rocks, as though it had been hurled from a sling;[20] more especially when it wishes to leap from one eminence to another. There are the oryges also,[21] which are said to be the

[16] There has been some difference of opinion respecting the derivation of this word, but it is generally used to express a "mongrel," *i. e.* an animal whose parents are of different natures, or, when applied to the human species, of different countries.—B.

[17] See B. vii. c. 2.

[18] It is not easy to determine what animals Pliny intended to designate. Cuvier employs the terms "chevreuils, chamois, and bouquetins," as the corresponding words in the French. In English we have no names to express these varieties; we may, however, regard them generally, as different species of wild goats. Cuvier conceives that the Linnæan names of the animals mentioned were, probably, Cervus capreolus, Antelope rupicapra, and Capra ibex.—B.

[19] The resemblance may be supposed to consist in the horns being hollow, and tapering to a point.—B.

[20] There is considerable difficulty in ascertaining the correct reading, or the exact meaning which the writer intended to convey by the words employed.—B.

[21] There is some difficulty in determining the nature of the variety which Pliny terms "oryges;" Hardouin has collected the opinions of naturalists, and we have some remarks by Cuvier; he refers to Buffon's account of the Antelope oryx, as agreeing, in the essential points, with the description given by Pliny; Lemaire, vol. iii. p. 554. See B. xi. c. 106.

only animals that have the hair the contrary way, the points being turned towards the head. There are the dama also,[22] the pygargus,[23] and the strepsiceros,[24] besides many others which strongly resemble them. The first mentioned of these animals,[25] however, dwell in the Alps; all the others are sent to us from the parts beyond sea.

CHAP. 80. (54.)—APES.

The different kinds of apes, which approach the nearest to the human figure, are distinguished from each other by the tail.[26] Their shrewdness is quite wonderful. It is said that, imitating the hunters, they will besmear themselves with bird-lime, and put their feet into the shoes, which, as so many snares, have been prepared for them.[27] Mucianus says, that they have even played at chess, having, by practice, learned to distinguish the different pieces, which are made of wax.[28]

[22] Cuvier remarks, that there is some doubt respecting the dama of Pliny; he is, however, disposed to regard it as a species of antelope. Ajasson, vol. vi. p. 464, 465; Lemaire, vol. iii. p. 554.—B.

[23] The term pygargus is derived from the words πυγὴ ἀργὸς, denoting "white buttocks." Probably a kind of gazelle.

[24] "With twisted horns." It is probable that Pliny intended to designate a species of antelope,—B. See B. xi. c. 45.

[25] In this division Pliny, probably, included what he has termed the "capræa," the rupicapra, and the ibex.—B.

[26] Some of these animals are entirely without a tail, and this circumstance has been employed to form the primary division of the simiæ into the two species, those with and those without tails. We have an epigram of Martial, in which this is referred to. "Si mihi cauda foret, cercopithecus eram"—"If I had but a tail, I should be a monkey." B. iv. Ep. 102.—B. See B. xi. c. 100.

[27] We learn from Strabo, Ind. Hist. B. xv., that, in catching the monkey, the hunters took advantage of the propensity of these animals to imitate any action they see performed. "Two modes," he says, "are employed in taking this animal, as by nature it is taught to imitate every action, and to take to flight by climbing up trees. The hunters, when they see an ape sitting on a tree, place within sight of it a dish full of water, with which they rub their eyes; and then, slyly substituting another in its place, full of bird-lime, retire and keep upon the watch. The animal comes down from the tree, and rubs its eyes with the bird-lime, in consequence of which the eyelids stick together, and it is unable to escape." Ælian also says, Hist. Anim. B. xvii. c. 25, that the hunters pretend to put on their shoes, and then substitute, in their place, shoes of lead; the animal attempts to imitate them, and, the shoes being so contrived, when it has once got them on, it finds itself unable to take them off, or to move, and is consequently taken.

[28] There has been some difficulty in ascertaining the exact reading here;

He says that the species which have tails become quite melancholy when the moon is on the wane, and that they leap for joy at the time of the new moon, and adore it. Other quadrupeds also are terrified at the eclipses of the heavenly bodies. All the species of apes manifest remarkable affection for their offspring. Females, which have been domesticated, and have had young ones, carry them about and shew them to all comers, shew great delight when they are caressed, and appear to understand the kindness thus shewn them. Hence it is, that they very often stifle their young with their embraces. The dog's-headed ape[29] is of a much fiercer nature, as is the case with the satyr. The callitriche[30] has almost a totally different aspect; it has a beard on the face, and a tail, which in the first part of it is very bushy. It is said that this animal cannot live except in the climate of Æthiopia, which is its native place.

CHAP. 81. (55.)—THE DIFFERENT SPECIES OF HARES.

There are also numerous species of hares. Those in the Alps are white,[31] and it is believed that, during the winter, they live upon snow for food; at all events, every year, as the snow melts, they acquire a reddish colour; it is, moreover, an animal which is capable of existing in the most severe climates. There is also a species of hare, in Spain, which is called the

but the meaning seems to be, that the pieces were made of wax, and that the animals had learned to distinguish them from each other, and move them in the appropriate manner; how far this is to be credited, it is not easy to decide, but it would certainly require very strong and direct evidence. We are told that the Emperor Charles V. had a monkey that played at chess with him.—B.

[29] In the original, termed "cynocephali," "dog's-headed;" an appellation given to them, according to Cuvier, from their muzzle projecting like that of a dog; we have an account of this species in Aristotle, Hist. Anim. B. ii. c. 13.—B. Probably the baboon. See B. vi. c. 35, and B. vii. c. 2. The satyr is, perhaps, the uran-utang. See B. v. c. 8, and B. vii. c. 2.

[30] Or "fine-haired monkey;" supposed to be the Silenus of Linnæus; it is described by Buffon, under the name of Callitrix.—B. It seems to be also called the "Simia hamadryas."

[31] Hardouin gives references to the authors who have observed this change in the colour of the hare, apparently depending upon the peculiar locality, and its consequent exposure to a low temperature. Cuvier considers it as characteristic of a peculiar species, the Lepus variabilis, "which being peculiar to the highest mountains, and the regions of the north, is white in winter."—B.

rabbit;[32] it is extremely prolific, and produces famine in the Balearic islands, by destroying the harvests. The young ones, either when cut from out of the body of the mother, or taken from the breast, without having the entrails removed, are considered a most delicate food; they are then called laurices.[33] It is a well-known fact, that the inhabitants of the Balearic islands begged of the late Emperor Augustus the aid of a number of soldiers, to prevent the too rapid increase of these animals. The ferret[34] is greatly esteemed for its skill in catching them. It is thrown into the burrows, with their numerous outlets, which the rabbits form, and from which circumstance they derive their name,[35] and as it drives them out, they are taken above. Archelaus informs us, that in the hare, the number of cavernous receptacles in the body for the excrements always equals that of its years;[36] but still the numbers are sometimes found to differ. He says also, that the same individual possesses the characteristics of the two sexes, and that it becomes pregnant just as well without the aid of the male. It is a kind provision of Nature, in making animals which are both harmless and good for food, thus prolific. The hare, which is preyed upon by all other animals, is the only one, except the dasypus,[37] which is capable of superfœtation;[38] while the mother is suckling one of her young, she has another in the womb covered with hair, another without any covering at all, and another which is just beginning to be formed. Attempts

[32] Or cohey, "cuniculus." Hardouin makes some observations upon the derivation of this term, to show that Pliny was mistaken in supposing it to be of Spanish origin; we have also an observation of Cuvier's to the same effect.—B.

[33] "Laurices;" we have no explanation of this word in any of the editions of Pliny. Its origin appears to be quite unknown.

[34] According to Cuvier, the Mustela furo of Linnæus. Ajasson, *ubi supra*.—B.

[35] Because, as Varro says, De Re Rus. B. iii. c. 12, they are in the habit of making burrows—cuniculos—in the earth.

[36] This reference to the opinion of Archelaus appears to be from Varro, *ubi supra;* the same reference is made by Ælian, Hist. Anim. B. ii. c. 2.—B.

[37] Respecting the dasypus of Pliny, it has been doubted whether it be a distinct species, a variety of the hare, or merely a synonyme.—B.

[38] It is by some contended, that the human female, and perhaps some other animals, have occasionally been the subjects of what is termed superfœtation; whereas, according to Pliny, in the hare and the dasypus it takes place frequently, but in no other animals.—B. On this subject, see B. vii. c. 9.

have been made to form a kind of stuff of the hair of these animals; but it is not so soft as when attached to the skin, and, in consequence of the shortness of the hairs, soon falls to pieces.

CHAP. 82. (56.)—ANIMALS WHICH ARE TAMED IN PART ONLY.

Hares are seldom tamed, and yet they cannot properly be called wild animals; indeed, there are many species of them which are neither tame nor wild, but of a sort of intermediate nature; of the same kind there are among the winged animals, swallows and bees, and among the sea animals, the dolphin.

(57.) Many persons have placed that inhabitant of our houses, the mouse, in this class also; an animal which is not to be despised, for the portents which it has afforded, even in relation to public events. By gnawing the silver shields at Lanuvium,[39] mice prognosticated the Marsian war; and the death of our general, Carbo, at Clusium,[40] by gnawing the latchets with which he fastened his shoes.[41] There are many species of this animal in the territory of Cyrenaica; some of them with a wide, others with a projecting, forehead, and some again with bristling hair, like the hedgehog.[42] We are informed by Theophrastus, that after the mice had driven the inhabitants of Gyara[43] from their island, they even gnawed the iron; which they also do, by a kind of natural instinct, in the iron forges among the Chalybes. In gold mines, too, their

[39] This is referred to by Cicero, in his treatise, De Divinatione, B. i. c. 44, and B. ii. c. 27; in the latter he treats it as an idle tale.—B.

[40] See B. iii. c. 8.

[41] C. Papirius Carbo, a contemporary and friend of the Gracchi. In B.C. 119, the orator, Licinius Crassus, brought a charge against him, the nature of which is not known; but Carbo put an end to his life, by taking cantharides.

[42] These different species are thus characterized by Cuvier: "Les premiers sont les souris et les rats, de formes ordinaires; les seconds, les grandes musaraignes [shrew-mice] de la taille du rat, telles que l'on en trouve en Egypte; les troisiemes, une espece de souris particuliere à l'Egypte, et peut-être à la Barbarie, armée d'epines parmi ses poils dont Aristote avait deja parlé (B. vi. l. 37, *cap. ult.*) et que M. Geoffroy a retrouvée et nommée mus cahirinus." Ajasson, vol. vi. p. 467, and Lemaire, *ubi supra.*—B. See B. viii. c. 55, and B. x. c. 85.

[43] Ælian, Hist. Anim. B. v. c. 11, mentions this circumstance, but says that it occurred in the island of Paros. For Gyara, see B. iv. c. 23.

stomachs are opened for this purpose, and some of the metal is always to be found there, which they have pilfered,[44] so great a delight do they take in stealing! We learn from our Annals, also, that at the siege of Casilinum,[45] by Hannibal, a mouse was sold for two hundred denarii,[46] and that the person who sold it perished with hunger, while the purchaser survived. To be visited by white mice is considered as indicative of a fortunate event; but our Annals are full of instances in which the singing[46*] of a mouse has interrupted the auspices.[47] Nigidius informs us, that the field-mouse conceals itself during winter: this is also said to be the case with the dormouse, which the regulations of the censors, and of M. Scaurus, the chief of the senate, when he was consul,[48] have banished from our tables,[49] no less than shell-fish and birds, which are brought from a foreign country. The dormouse is also a half-wild animal, and the same person[50] made warrens for them in large casks, who first formed parks for wild boars. In relation to this subject, it has been remarked that dormice will not mate, unless they happen to be natives of the same forest; and that if those are put together that are brought from different rivers or mountains, they will fight and destroy each other. These animals nourish their parents, when worn out with old age, with a singular degree of affection. This old age of theirs is put an

[44] We have two passages in Livy, B. xxvii. and B. xxx., where gold is said to have been gnawed by mice.—B.

[45] See B. iii. c. 9. In B.C. 217, this place was occupied by Fabius with a strong garrison, to prevent Hannibal from passing the Vulturnus; and the following year, after the battle of Cannæ, was occupied by a small body of Roman troops, who, though little more than 1000 in number, withstood the assaults of Hannibal during a protracted siege, until compelled by famine to surrender.

[46] This sum would be about £7.—B.

[46*] It is by no means improbable that "occentus" here means "singing," and not merely "squeaking;" as the singing of a mouse would no doubt be deemed particularly ill-boding in those times. At the present day, a mouse has been heard to emit a noise which more nearly resembled singing than squeaking; and a "singing mouse" has been the subject of an exhibition more than once.

[47] We have frequent allusions to this occurrence in the writings of the Romans, some of which are referred to by Dalechamps; Lemaire, vol. iii. p. 563.—B.

[48] A.U.C. 639; it does not appear what was the cause of this prohibition.—B.

[49] See B. xxxvi. c. 2.

[50] Fulvius Lupinus, as already stated in c. 78.—B.

end to by their winter's rest, when they conceal themselves and sleep; they are young again by the summer. The field-mouse[51] also enjoys a similar repose.

CHAP. 83. (58.)—PLACES IN WHICH CERTAIN ANIMALS ARE NOT TO BE FOUND.

It is a remarkable fact, that nature has not only assigned different countries to different animals, but that even in the same country, it has denied certain species to peculiar localities.[52] In Italy the dormouse is found in one part only, the Messian forest.[53] In Lycia the gazelle never passes beyond the mountains which border upon Syria;[54] nor does the wild ass in that vicinity pass over those which divide Cappadocia from Cilicia. On the banks of the Hellespont, the stags never pass into a strange territory, and about Arginussa[55] they never go beyond Mount Elaphus; those upon that mountain, too, have cloven ears. In the island of Poroselene,[56] the weasels will not so much as cross a certain road. In Bœotia, the moles, which were introduced at Lebadea, fly from the very soil of that country, while in the neighbourhood, at Orchomenus, the very same animals tear up all the fields. We have seen coverlets for beds made of the skins of these creatures, so that our sense of religion does not prevent us from employing these ominous animals for the purposes of luxury. When hares have been brought to Ithaca, they die as soon as ever they touch the shore, and the same is the case with rabbits, on the shores of the island of Ebusus;[57] while they abound in the vicinity,

[51] "Nitelis." See B. xvi. c. 69. Probably the animal now known as the Myoxus nitela of Linnæus.

[52] Aristotle, Hist. Anim. B. viii. c. 33.—B.

[53] According to Hardouin, this forest is termed, in modern times, Bosco di Baccano; it is nine miles S.W. of Rome.

[54] Cuvier informs us, that "Le dorcas des Grecs n'est le daim, comme le dit Hardouin, mais le chevreuil; car Aristote (De Partib. Anim. l. iii. c. 2) dit que c'est le plus petit des animaux à cornes que nous connaissions (sans doute en Grèce); et le dorcas Libyca, très-bien decrit par Ælien (l. xiv. c. 4), est certainement la gazelle commune, 'antelope dorcas,'" Ajasson, vol. vi. pp. 467, 468; Lemaire, vol. iii. p. 565. Respecting the localities here mentioned, it has been proposed to substitute Cilicia for Syria, Syria and Lycia being at a considerable distance from each other.—B.

[55] See B. v. c. 39. [56] See B. v. c. 38.

[57] See B. iii. c. 11, and the Note to the passage. See also c. 81 of this Book.

Spain namely, and the Balearic isles. In Cyrene, the frogs were formerly dumb, and this species still exists, although croaking ones were carried over there from the continent. At the present day, even, the frogs in the island of Seriphos are dumb; but when they are carried to other places, they croak; the same thing is also said to have taken place at Sicandrus, a lake of Thessaly.[58] In Italy, the bite of the shrew-mouse[59] is venomous; an animal which is not to be found in any region beyond the Apennines. In whatever country it exists, it always dies immediately if it goes across the rut made by a wheel. Upon Olympus, a mountain of Macedonia, there are no wolves, nor yet in the isle of Crete.[60] In this island there are neither foxes, nor bears, nor, indeed, any kind of baneful animal,[61] with the exception of the phalangium, a species of spider, of which I shall speak in its appropriate place.[62] It is a thing still more remarkable, that in this island there are no stags, except in the district of Cydon;[63] the same is the case with the wild boar, the woodcock,[64] and the hedgehog. In Africa, there are neither wild boars, stags, deer, nor bears.

CHAP. 84. (59.)—ANIMALS WHICH INJURE STRANGERS ONLY, AS ALSO ANIMALS WHICH INJURE THE NATIVES OF THE COUNTRY ONLY, AND WHERE THEY ARE FOUND.

Besides this, there are certain animals, which are harmless to the natives of the country, but destroy strangers; such are

[58] Ælian, B. ii. c. 37, gives the same account of the frogs of Seriphos and the lake of Thessaly, but gives the name of Pierus to the lake.—B.

[59] "Mus araneüs; the 'shrew-mouse,'" according to Cuvier, "La musaraigne n'est pas venimeuse. Il s'en faut beaucoup qu'elle n'existe pas au nord des Apennins; et elle ne périt point passe qu'elle a traversé une ornière, quoique souvent elle puisse y être écrasée. C'est un des quadrupèdes que l'on tue le plus aisément par un coup léger." Ajasson, vol. vi. p. 468.—B.

[60] Ælian, B. iii. c. 32, gives the same account, which he professes to have taken from Theophrastus.—B.

[61] This is also stated by Ælian.

[62] B. xi. c. 23, and B. xxix. c. 27.—B.

[63] See B. iv. c. 20.

[64] "Attagenæ;" the commentators have suspected some inaccuracy with respect to this word, as we have no other remarks on birds in this part of Pliny's work; Lemaire, vol. iii. pp. 567, 568.—B.

the little serpents at Tirynthus,[65] which are said to spring from out of the earth. In Syria, also, and especially on the banks of the Euphrates, the serpents never attack the Syrians when they are asleep, and even if they happen to bite a native who treads upon them, their venom is not felt; but to persons of any other country they are extremely hostile, and fiercely attack them, causing a death attended with great torture. On this account, the Syrians never kill them. On the contrary, on Latmos, a mountain[66] of Caria, as Aristotle tells us, strangers are not injured by the scorpions, while the natives are killed by them. But I must now give an account of other animals as well, and of the productions of the earth.[67]

SUMMARY.—Remarkable events, narratives, and observations, seven hundred and eighty-seven.

ROMAN AUTHORS QUOTED.—Mucianus,[68] Procilius,[69] Verrius Flaccus,[70] L. Piso,[71] Cornelius Valerianus,[72] Cato the Censor,[73] Fenestella,[74] Trogus,[75] the Register of the Triumphs,[76] Columella,[77]

[65] See B. iv. c. 9.

[66] See B. v. c. 31.

[67] More especially of trees, plants, flowers, medicinal substances, metals, and gems, which form the most prominent subjects of the remaining Books after the eleventh, which concludes the account of the animals.—B.

[68] See end of B. ii.

[69] A Roman historian, and a contemporary of Cicero. He is thought to have written on early Roman history, as Varro quotes his account of the Curtian Lake, and on the later history of Rome, as we have seen Pliny referring to him in c. 2, respecting Pompey's triumph on his return from Africa. He was held in high estimation by Pomponius Atticus, but seems not to have been so highly esteemed as a writer by Cicero.

[70] See end of B. iii.

[71] See end of B. ii.

[72] Of this writer nothing seems to be known. He probably flourished in the reign of Tiberius or Caligula.

[73] See end of B. iii.

[74] A Roman historian, who flourished in the reign of Augustus, and died A.D. 21, in the seventieth year of his age. His great work was called "Annales," and extended to at least twenty-two books, and seems to have contained much minute, though not always accurate, information with regard to the internal affairs of the city; only a few fragments remain, which bear reference to events subsequent to the Carthaginian wars. He is also thought to have written a work called "Epitomæ." A treatise was published at Vienna, in 1510, in two Books, "On the Priesthood and Magistracy of Rome," under the name of Fenestella; but it is in reality the composition of Andrea Domenico Fiocchi, a Florentine jurist of the fourteenth century.

[75] See end of B. vii.

[76] See end of B. v.

[77] L. Junius Moderatus Columella. He was a native of Gades, or Cadiz,

Virgil,[78] Varro,[79] Lucilius,[80] Metellus Scipio,[81] Cornelius Celsus,[82] Nigidius,[83] Trebius Niger,[84] Pomponius Mela,[85] Mamilius Sura.[86]

FOREIGN AUTHORS QUOTED.—King Juba,[87] Polybius,[88] Herodotus,[89] Antipater,[90] Aristotle,[91] Demetrius[92] the physician, Democritus,[93] Theophrastus,[94] Euanthes,[95] Agriopas,[96] who wrote

and was a contemporary of Celsus and Seneca. He is supposed to have resided at Rome, and from his works it appears that he visited Syria and Cilicia. It has been conjectured that he died at Tarentum. His great work is a systematic treatise upon Agriculture, divided into Twelve Books.

[78] See end of B. vii. [79] See end of B. ii.

[80] C. Lucilius, the first Roman satirical poet of any importance, was born B.C. 148, and died B.C. 103. From Juvenal we learn that he was born at Suessa of the Aurunci, and from Velleius Paterculus and Horace other particulars respecting him. He is supposed to have been either the maternal grand-uncle or maternal grandfather of Pompeius Magnus. If not absolutely the inventor of Roman satire, he was the first to mould it into that form which was afterwards fully developed by Horace, Juvenal, and Perseus. He is spoken of in high terms as a writer by Cicero, Horace, and Quintilian.

[81] The father of Cornelia, the wife of Pompeius Magnus. After his defeat by Cæsar at the battle of Thapsus, he stabbed himself, and leaped into the sea. In what way he distinguished himself as an author, does not appear.

[82] See end of B. vii. [83] See end of B. vi.

[84] He was one of the companions of L. Lucullus, proconsul in Bætica, the province of Spain, B.C. 150. His work on Natural History is several times referred to by Pliny. [85] See end of B. iii.

[86] A writer on Agriculture, mentioned by Varro and Columella. Nothing more seems to be known of him.

[87] See end of B. v. [88] See end of B. iv.

[89] See end of B. ii.

[90] Of Tarsus, a Stoic philosopher, the disciple and successor of Diogenes, and the teacher of Panætius, about B.C. 144. Of his personal history but little is known. Mention is made of his History of Animals by the Scholiast upon Apollonius Rhodius.

[91] See end of B. ii.

[92] There were several physicians of this name; one was a native of Apamea in Bithynia, a follower of Herophilus, who flourished in the third or second century B.C.; another lived about the same period, and is by some supposed to have been the same as the last. No particulars seem to be known of the individual here mentioned.

[93] See end of B. ii. [94] See end of B. iii.

[95] Of Miletus. He wrote on mythical subjects, and is mentioned as an author by Diogenes Laertius; but nothing further seems to have been known respecting him.

[96] Some of the MSS. call him Acopas, or Copas. He was the author of

the "Olympionicæ," King Hiero,[97] King Attalus[98] Philometor, Ctesias,[99] Duris,[1] Philistus,[2] Archytas,[3] Phylarchus,[4] Amphilochus[5] of Athens, Anaxapolis[6] the Thasian, Apollodorus[7] of Lemnos, Aristophanes[8] the Milesian, Antigonus[9] the Cumæan, Agathocles[10] of Chios, Apollonius[11] of Pergamus, Aris-

an account of the victors at the Olympic games, the work here referred to by Pliny.

[97] Hiero II., the king of Syracuse, and steady friend and ally of the Romans. He died probably a little before the year B.C. 216, having attained the age of ninety-two. Varro and Columella speak of a Treatise on Agriculture written by him.

[98] Attalus III., king of Pergamus, son of Eumenes II. and Stratonice, daughter of Ariarathes, king of Cappadocia. In his will he made the Roman people his heirs. Being struck with remorse for the murders and other crimes of which he had previously been guilty, he abandoned all public business, and devoted himself to the study of physic, sculpture, and gardening, on which he wrote a work. He died B.C. 133, of a fever, with which he was seized through exposing himself to the sun's rays, while engaged in erecting a monument to his mother.

[99] See end of B. ii.

[1] See end of B. vii.

[2] An historian of Syracuse, one of the most celebrated of antiquity, though, unfortunately, none of his works have come down to us. He was born about B.C. 435, and died B.C. 356. He wrote histories of Egypt, Libya, Syria, and Phœnicia.

[3] A Greek of Tarentum, famous as a philosopher, mathematician, statesman, and general. The lives of him by Aristoxenus and Aristotle are unfortunately lost. He lived probably about B.C. 400, and he is said to have saved the life of Plato by his influence with the tyrant Dionysius. He was finally drowned in the Adriatic. He attained great skill as a practical mechanician; and his flying dove of wood was one of the wonders of antiquity. The fragments and titles of works ascribed to him are very numerous, but the genuineness of some is doubted.

[4] See end of B. vii.

[5] A writer on Agriculture, mentioned also by Varro and Columella. In B. xviii. c. 43, Pliny speaks of a work of his on lucerne clover and cytisus.

[6] Or Anaxipolis. He was a writer on Agricultural subjects, and is mentioned by Varro and Columella; but nothing further is known respecting him.

[7] A writer on Agriculture. He is supposed to have lived before the time of Aristotle, and is also mentioned by Varro. No further particulars are known respecting him.

[8] A writer on Agriculture; Varro calls him a native of Mallus, in Cilicia.

[9] A native of Cumæ or Cymæ, in Asia Minor, a Greek writer on Agriculture, mentioned also by Varro and Columella.

[10] A writer on Agriculture, mentioned also by Varro and Columella.

[11] A writer on Agriculture, mentioned also by Varro, Columella, Galen, and the Scholiast on Nicander.

tander[12] of Athens, Bacchius[13] of Miletus, Bion[14] of Soli, Chæreas[15] the Athenian, Diodorus[16] of Priene, Dion[17] the Colophonian, Epigenes[18] the Rhodian, Euagon[19] of Thasos, Euphronius[20] of Athens, Hegesias[21] of Maronea, the Menanders[22] of Priene and of Heraclea, Menecrates[23] the poet, Androtion[24] who wrote on Agriculture, Æschrion[25] who wrote on Agriculture, Lysimachus[26] who wrote on Agriculture, Dionysius[27] who translated Mago, Diophanes[28] who made an epitome of the work of Dionysius, King Archelaus,[29] Nicander.[30]

[12] The most famous among the soothsayers of Alexander the Great. He probably wrote the work on Prodigies, which is referred to by Pliny in B. xvii. c. 38, and elsewhere, as also by Lucian the satirist.

[13] A writer on Agriculture, mentioned also by Varro and Columella.

[14] See end of B. vi.

[15] A writer on Agriculture, mentioned also by Varro and Columella.

[16] A writer on Agriculture, mentioned also by Varro and Columella.

[17] A writer on Agriculture, mentioned also by Varro and Columella.

[18] See end of B. ii.

[19] A writer on Agriculture, mentioned also by Varro and Columella.

[20] Or Euphonius, a writer on Agriculture, also mentioned by Varro and Columella. Nothing further is known relative to him.

[21] See end of B. vii.

[22] Menander of Priene was a writer on Agriculture, mentioned also by Varro and Columella. Menander of Heraclea was a writer on Agriculture, mentioned also by Varro.

[23] A poet who wrote on Agriculture, mentioned also by Varro. It is not improbable that he is the same person with the Menecrates of Smyrna, the author of two epigrams in the Greek Anthology.

[24] A Greek writer on Agriculture, who wrote before the time of Theophrastus, by whom he is mentioned, as also by Athenæus and Varro.

[25] He is mentioned also by Varro, but nothing is known of him.

[26] He is often referred to by Varro and Columella. He is also supposed to have been the writer of a History of Thebes, mentioned by the Scholiast and Apollonius Rhodius, B. iii.

[27] Cassius Dionysius of Utica. He translated into Greek the twenty-eight Books on Husbandry written by Mago the Carthaginian, in the Punic language. Of Mago nothing further is known.

[28] Diophanes of Bithynia made an epitome of the same work in Greek, and dedicated it to King Deiotarus. Columella styles Mago the Father of Agriculture.

[29] Made king of Cappadocia by Antony, B.C. 34. He died at Rome, at an advanced age, A.D. 17. Plutarch attributes to King Archelaus—if, indeed, this was the same—a treatise on Minerals.

[30] A native of Claros, near Colophon, in Ionia. It is not a matter of certainty, but it is most probable, that he lived in the reign of Ptolemy V., who died B.C. 181. He was a poet, grammarian, and physician. His "Theriaca," a poem on the wounds inflicted by venomous animals, still exists, as also another called "Alexipharmia."

BOOK IX.

THE NATURAL HISTORY OF FISHES.

CHAP. 1. (1.)—WHY THE LARGEST ANIMALS ARE FOUND IN THE SEA.

We have now given an account of the animals which we call terrestrial, and which live as it were in a sort of society with man. Among the remaining ones, it is well known that the birds are the smallest; we shall therefore first describe those which inhabit the seas, rivers, and standing waters.

(2.) Among these there are many to be found that exceed in size any of the terrestrial animals even; the evident cause of which is the superabundance of moisture with which they are supplied. Very different is the lot of the winged animals, whose life is passed soaring aloft in the air. But in the seas, spread out as they are far and wide, forming an element at once so delicate and so vivifying, and receiving the generating principles[1] from the regions of the air, as they are ever produced by Nature, many animals are to be found, and indeed, most of those that are of monstrous form; from the fact, no doubt, that these seeds and first principles of being are so utterly conglomerated and so involved, the one with the other, from being whirled to and fro, now by the action of the winds and now by the waves. Hence it is that the vulgar notion may very possibly be true, that whatever is produced in any other department of Nature, is to be found in the sea as well; while, at the same time, many other productions are there to be found which nowhere else exist. That there are to be found in the sea the forms, not only of terrestrial animals, but of inanimate objects even, is easily to be understood by all who will take the

[1] He has already said, in B. ii. c. 3, that "the seeds of all bodies fall down from the heavens, principally into the ocean, and being mixed together, we find that a variety of monstrous forms are in this way frequently produced."

trouble to examine the grape-fish,[2] the sword-fish,[3] the saw-fish,[4] and the cucumber-fish,[5] which last so strongly resembles the real cucumber both in colour and in smell. We shall find the less reason then to be surprised to find that in so small an object as a shell-fish[6] the head of the horse is to be seen protruding from the shell.

CHAP. 2. (3.)—THE SEA MONSTERS OF THE INDIAN OCEAN.

But the most numerous and largest of all these animals are those found in the Indian seas; among which there are balænæ,[7] four jugera[8] in extent, and the pristis,[9] two hundred cubits

[2] Hardouin has the following remark on this passage. "Rondelet and Aldrovandus only waste their time and pains in making their minute inquiries into the present names of these fish, which took their names from grapes, the wood, the saw, and the cucumber; for by no other writer do we find them mentioned even." Cuvier, however, does not seem to be of Hardouin's opinion, that such investigations are a waste of time, and has suggested that the eggs of the Sepia officinalis may be alluded to, the eggs of which are in clusters of a dark colour, and bearing a strong resemblance to black grapes. This resemblance to a bunch of grapes is noticed by Pliny himself, in c. 74 of the present Book.

[3] He alludes, most probably, to what we call the "sword-fish," the "Xiphias gladius" of Linnæus.

[4] Probably, in allusion to the "Squalus pristis" of Linnæus.

[5] Cuvier suggests that he probably alludes to the "Holothuria pentactes" of Linnæus, or the sea-priapus; and remarks, that when the animal contracts itself, it bears a very strong resemblance to a cucumber.

[6] Cuvier says, that he most probably alludes to the "Syngnathus hippocampus" of Linnæus. This little fish, he says, is also called the sea-horse, and having the body armed with a hard coat, might very easily have been taken for a shell-fish. Its head, in miniature, bears a very strong resemblance to that of a horse.

[7] It is not accurately known what fish was meant by the ancients, under the name of "balæna." According to some writers, it is considered to be the same with what we call the "grampus."

[8] A space, as Hardouin remarks, greater than that occupied by some towns, the "jugerum" being 240 feet long, and 120 broad. The vast size of great fishes was a favourite subject with some of the ancient writers, and their accounts were eagerly copied by some of the early fathers. Bochart has collected these various accounts in his work on Animals, B. i. c. 7. In the "Arabian Nights" also, we find accounts of huge fishes in the eastern seas, so large as to be taken for islands. The existence of the sea-serpent is still a question in dispute; and a whale of large size, is a formidable obstacle in the way of a ship of even the largest burthen.

[9] As Hardouin remarks, we can learn neither from the works of Pliny, nor yet of Ælian, what fish the pristis really was. From Nonius Marcellus, c. 13, we find that it was a very long fish of large size, but narrow

long: here also are found cray-fish[10] four cubits in length, and in the river Ganges there are to be seen eels three hundred [11] feet long. But at sea it is more especially about the time of the solstices that these monsters are to be seen. For then it is that in these regions the whirlwind comes sweeping on, the rains descend, the hurricane comes rushing down, hurled from the mountain heights, while the sea is stirred up from the very bottom, and the monsters are driven from their depths and rolled upwards on the crest of the billow. At other times again, there are such vast multitudes of tunnies met with, that the fleet of Alexander the Great was able to make head against them only by facing them in order of battle, just as it would have done an enemy's fleet. Had the ships not done this, but proceeded in a straggling manner, they could not possibly have made their escape. No noises, no sounds, no blows had any effect on these fish; by nothing short of the clash of battle were they to be terrified, and by nothing less than their utter destruction were they overpowered.

There is a large peninsula in the Red Sea, known by the name of Cadara:[12] as it projects into the deep it forms a vast gulf, which it took the fleet of King Ptolemy[13] twelve whole days and nights to traverse by dint of rowing, for not a breath of wind was to be perceived. In the recesses of this becalmed spot more particularly, the sea-monsters attain so vast a size that they are quite unable to move. The commanders of the fleets of Alexander the Great have related that the Gedrosi,[14] who dwell upon the banks of the river Ara-

body. Hardouin says that it was a fish of the cetaceous kind, found in the Indian seas, which, in his time, was known by some as the "vivella," with a long bony muzzle serrated on either side, evidently meaning the saw-fish. Pristis was a favourite name given by the Romans to their ships. In the boat-race described by Virgil in the Æneid, B. v., one of the boats is so called.

[10] Cuvier remarks, that he himself had often seen the "langouste," or large lobster, as much as four feet in length, and the "homard," usually a smaller kind, of an equal size. The length, however, given by Pliny would make six or eight feet, according to the length of the cubit.

[11] Cuvier says, that it is an exaggeration by travellers, which there is nothing in nature at all to justify. Probably, however, some animals of the genus boa, or python, or large water-snakes may have given rise to the story.

[12] On the southern coast of Arabia. [13] Ptolemy Philadelphus.

[14] See B. vi. c. 23, 25. Strabo, in his fifteenth Book, tells the same story of the Ichthyophagi, situate between the Carmani and the Oritæ. Dale-

bis,[15] are in the habit of making the doors of their houses with the jaw-bones[16] of fishes, and raftering the roofs with their bones, many of which were found as much as forty cubits in length. At this place, too, the sea-monsters, just like so many cattle,[17] were in the habit of coming on shore, and, after feeding on the roots of shrubs, they would return; some of them, which had the heads of horses,[18] asses, and bulls, found a pasture in the crops of grain.

CHAP. 3. (4.)—THE LARGEST ANIMALS THAT ARE FOUND IN EACH OCEAN.

The largest animals found in the Indian Sea are the pistrix and the balæna; while of the Gallic Ocean the physeter[19] is

champs suggests that the Gedrosi mentioned this in relation to the Ichthyophagi, who were probably their neighbours.

[15] Also called the Cophetes. See B. vi. c. 25. The commander of Alexander's fleet more especially alluded to, is probably Nearchus, who wrote an account of his voyage, to which Pliny has previously made allusion in B. vi. and which is followed by Strabo, in B. xv., and by Arrian, in his "Indica."

[16] Hardouin remarks, that the Basques of his day were in the habit of fencing their gardens with the ribs of the whale, which sometimes exceeded twenty feet in length; and Cuvier says, that at the present time, the jaw-bone of the whale is used in Norway for the purpose of making beams or posts for buildings.

[17] Onesicritus, quoted by Strabo, B. xv., says., that in the vicinity of Taprobane, or Ceylon, there were animals which had an amphibious life, some of which resembled oxen, some horses, and various other land animals. Cuvier is of opinion, that not improbably the "Trichecum manatum" and the "Trichecum dugong" of Linnæus are alluded to, which are herbivorous animals, though nearly allied to the cetacea, and which are in the habit of coming to pasture on the grass or sea-weed they may chance to find on the shore.

[18] It is remarked by Cuvier, that there is no resemblance whatever between the domesticated animals and any of the cetacea; but that the imagination of the vulgar has pictured to itself these supposed resemblances, by the aid of a lively imagination.

[19] From the Greek φυσητήρ, "a blower," probably one of the whale species, so called from its blowing forth the water. Hardouin remarks, that Pliny mentions the Gallic Ocean, in B. vi. c. 33, as ending at the Pyrenees; and, probably, by this term he means the modern Bay of Biscay. Rondeletius, B. xvi. c. 14, says, that this fish is the same that is called by the Narbonnese peio mular, by the Italians capidolio, and by the people of Saintonge, "sedenette." Cuvier conjectures also, that this was some kind of large whale; a fish which was not unfrequently found, in former times, in the gulf of Aquitaine, the inhabitants of the shores of which were skilled in its pursuit. Ajasson states that Valmont de Bomare was of opinion

the most bulky inhabitant, raising itself aloft like some vast column, and as it towers above the sails of ships, belching forth, as it were, a deluge of water. In the ocean of Gades there is a tree,[20] with outspread branches so vast, that it is supposed that it is for that reason it has never yet entered the Straits. There are fish also found there which are called sea-wheels,[21] in consequence of their singular conformation; they are divided by four spokes, the nave being guarded on every side by a couple of eyes.

CHAP. 4. (5.)—THE FORMS OF THE TRITONS AND NEREIDS. THE FORMS OF SEA ELEPHANTS.

A deputation of persons from Olisipo,[21*] that had been sent for the purpose, brought word to the Emperor Tiberius that a triton had been both seen and heard in a certain cavern, blowing a conch-shell,[22] and of the form under which they are usually

that it was the porpoise; but, as he justly remarks, the size of that animal does not at all correspond with the magnitude of the "physeter," as here mentioned.

[20] Cuvier suggests that the idea of such an animal as the one here mentioned, probably took its rise in the kind of sea star-fish, now known as Medusa's head, the Asterias of Linnæus; but that the enormous size here attributed to it, has no foundation whatever in reality. He remarks also, that the inhabitants of the north of Europe, have similar stories relative to a huge polypus, which they call the "kraken." We may, however, be allowed to observe, that the "kraken," or "korven," mentioned by good bishop Pontoppidan, bears a closer resemblance to the so-called "sea-serpent," than to anything of the polypus or sepia genus.

[21] "Rhotæ." Cuvier suggests that this idea of the wheel was taken from the class of zoophytes named "Medusæ," by Linnæus, which have the form of a disc, divided by radii, and dots which may have been taken for eyes. But then, as he says, there are none of them of an excessive size, as Pliny would seem to indicate by placing them in this Chapter, and which Ælian has absolutely attributed to them in B. xiii. c. 20. Of the largest rhizostoma, Cuvier says, that he had even seen, the diameter of the disc did not exceed two feet.

[21*] Lisbon. See B. iv. c. 35.

[22] One of the Scholiasts on Homer says, that before the discovery of the brazen trumpet by the Tyrrhenians, the conch-shell was in general use for that purpose. Hardouin, with considerable credulity, remarks here, that it is no fable, that the nereids and tritons had a human face; and says that no less than fifteen instances, ancient and modern, had been adduced, in proof that such was the fact. He says that this was the belief of Scaliger, and quotes the book of Aldrovandus on Monsters, p. 36. But, as Cuvier remarks, it is impossible to explain these stories of nereids and tritons, on any other grounds than the fraudulent pretences of those who

represented. Nor yet is the figure generally attributed to the nereids[23] at all a fiction; only in them, the portion of the body that resembles the human figure is still rough all over with scales. For one of these creatures was seen upon the same shores, and as it died, its plaintive murmurs were heard even by the inhabitants at a distance. The legatus of Gaul,[24] too, wrote word to the late Emperor Augustus that a considerable number of nereids had been found dead upon the sea-shore. I have, too, some distinguished informants of equestrian rank, who state that they themselves once saw in the ocean of Gades a sea-man,[25] which bore in every part of his body a perfect resemblance to a human being, and that during the night he would climb up into ships; upon which the side of the vessel where he seated himself would instantly sink downward, and if he remained there any considerable time, even go under water.

In the reign of the Emperor Tiberius, a subsidence of the ocean left exposed on the shores of an island which faces the province of Lugdunum[26] as many as three hundred animals or more, all at once, quite marvellous for their varied shapes and enormous size, and no less a number upon the shores of the

have exhibited them, or asserted that they have seen them. "It was only last year," he says, "that all London was resorting to see a wonderful sight in what is commonly called a mermaid. I myself had the opportunity of examining a very similar object: it was the body of a child, in the mouth of which they had introduced the jaws of a sparus [probably our "gilt-head]," while for the legs was substituted the body of a lizard. The body of the London mermaid," he says, "was that of an ape, and a fish attached to it supplied the place of the hind legs."

[23] Primarily the nereids were sea-nymphs, the daughters of Nereus and Doris. Dalechamps informs us, that Alexander ab Alexandro states that he once saw a nereid that had been thrown ashore on the coasts of the Peloponnesus, that Trapezuntius saw one as it was swimming, and that Draconetus Bonifacius, the Neapolitan, saw a triton that had been preserved in honey, and which many had seen when taken alive on the coast of Epirus. We may here remark, that the triton is the same as our "merman," and the nereid is our "mermaid."

[24] Of Gallia Lugdunensis, namely. The legatus was also called "rector," and "proprætor."

[25] Or "mer-man," as we call it. Dalechamps, in his note, with all the credulity of his time, states that a similar sea-man had been captured, it was said, in the preceding age in Norway, and that another had been seen in Poland, dressed like a bishop, in the year 1531. Juvenal, in his 14th Satire, makes mention of the "monsters of the ocean, and the youths of the sea."

[26] See B. iv. c. 31, 32.

Santones;[27] among the rest there were elephants[28] and rams, which last, however, had only a white spot to represent horns. Turranius has also left accounts of several nereids, and he speaks of a monster[29] that was thrown up on the shore at Gades, the distance between the two fins at the end of the tail of which was sixteen cubits, and its teeth one hundred and twenty in number; the largest being nine, and the smallest six inches in length.

M. Scaurus, in his ædileship, exhibited at Rome, among other wonderful things, the bones of the monster to which Andromeda was said to have been exposed, and which he had brought from Joppa, a city of Judæa. These bones exceeded forty feet in length, and the ribs were higher than those of the Indian elephant, while the back-bone was a foot and a half[30] in thickness.

[27] See B. iv. c. 33.

[28] Dalechamps says that this elephant is the same as the "rosmarus." of Olaus Magnus, B. xxxii. c. 11. It is remarked by Cuvier, that cetaceous animals have at all times received the names of those belonging to the land. The sea-ram, he thinks, may have been the great dolphin, which is called the "bootskopf," and which has above the eye a white spot, curved in nearly a similar manner to the horn of a ram. The "elephant," again, he suggests, may have been the Trichechus rosmarus of Linnæus, or the morse, which has large tusks projecting from its mouth, similar to those of the elephant. This animal, however, as he says, is confined to the northern seas, and does not appear ever to have come so far south as our coasts. Juba and Pausanias, however, speak of these horns of the sea-ram as being really teeth or tusks.

[29] Judging from the account of it here given, and especially in relation to the teeth, Cuvier is inclined to think that the cachelot whale, the Physeter macrocephalus of Linnæus, is the animal here alluded to.

[30] Solinus, generally a faithful mimic of Pliny, makes the measure only half a foot. Cuvier says that there can be little doubt that the bones represented to have been those of the monster to which Andromeda was exposed, were the bones, and more especially the lower jaws, of the whale. Ajasson certainly appears to have mistaken the sense of this passage. He says that it must not be supposed that Pliny means the identical bones of the animal which was about to devour Andromeda, but of one of the animals of that kind; and he exercises his wit at the expense of those who would construe the passage differently, in saying that these bones ought to have been sent to those who show in their collections such articles as the knife with which Cain slew Abel. Now, there can be no doubt that these bones were *not* those of the monster which the poets tell us was about to devour Andromeda; but the Romans certainly supposed that they were, and Pliny evidently thought so too, for in B. v. c. 14, he speaks of the chains by which she was fastened to the rock, at Joppa, as still to be seen there. M. Æmilius Scaurus, the younger, is here referred to.

CHAP. 5. (6.)—THE BALÆNA AND THE ORCA.

The balæna[31] penetrates to our seas even. It is said that they are not to be seen in the ocean of Gades before the winter solstice, and that at periodical seasons they retire and conceal themselves in some calm capacious bay, in which they take a delight in bringing forth. This fact, however, is known to the orca,[32] an animal which is peculiarly hostile to the balæna, and the form of which cannot be in any way adequately described, but as an enormous mass of flesh armed with teeth. This animal attacks the balæna in its places of retirement, and with its teeth tears its young, or else attacks the females which have just brought forth, and, indeed, while they are still pregnant; and as they rush upon them, it pierces them just as though they had been attacked by the beak of a Liburnian[33] galley. The female balænæ, devoid of all flexibility, without energy to defend themselves, and over-burdened by their own weight, weakened, too, by gestation, or else the pains of recent parturition, are well aware that their only resource is to take to flight

[31] As already mentioned, there is considerable doubt what fish of the whale species is meant under this name. Cuvier says, that even at the present day whales are occasionally found in the Mediterranean, and says that there is the head of one in the Museum of Natural History, that was thrown ashore at Martigues. He also observes, that in the year 1829, one had been cast upon the coasts of Languedoc. Ajasson suggests, that not improbably whales once frequented the Mediterranean in great numbers, but that as commerce increased, they gradually retreated to the open ocean.

[32] Rondelet, B. xvi. c. 13, says that this animal was called "espaular" by the people of Saintonge. Cuvier is of opinion, also, that it is the same animal, which is also known by the name of "bootskopf," the Delphinus orca of Linnæus. (See N. 28.) This cetaceous animal, he says, is a most dangerous enemy to the whale, which it boldly attacks, devouring its tongue, which is of a tender quality and enormous size. He thinks, however, that the orca taken at the port of Ostia was no other than a cachelot.

[33] The Liburna, or Liburnica, was usually a bireme, or two-oared galley, with the mast in the middle, though sometimes of larger bulk. From the description given of these by Varro, as quoted by Aulus Gellius, B. xvii. c. 3, they seem, as it has been remarked, somewhat similar to the light Indian massooliah boats, which are used to cross the serf in Madras roads. Pliny tells us, in B. xvi. c. 17, that the material of which they were constructed was pine timber, as free from resin as it could possibly be obtained. The beak of these vessels was of great comparative weight, and its sharpness is evidently alluded to in the present passage, as also in B. x. c. 32. The term "Liburna" was adopted from the assistance rendered to Augustus by the Liburni at the battle of Actium.

in the open sea and to range over the whole face of the ocean; while the orcæ, on the other hand, do all in their power to meet them in their flight, throw themselves in their way, and kill them either cooped up in a narrow passage, or else drive them on a shoal, or dash them to pieces against the rocks. When these battles are witnessed, it appears just as though the sea were infuriate against itself; not a breath of wind is there to be felt in the bay, and yet the waves by their pantings and their repeated blows are heaved aloft in a way which no whirlwind could effect.

An orca has been seen even in the port of Ostia, where it was attacked by the Emperor Claudius. It was while he was constructing the harbour[34] there that this orca came, attracted by some hides which, having been brought from Gaul, had happened to fall overboard[35] there. By feeding upon these for several days it had quite glutted itself, having made for itself a channel in the shoaly water. Here, however, the sand was thrown up by the action of the wind to such an extent, that the creature found it quite impossible to turn round; and while in the act of pursuing its prey, it was propelled by the waves towards the shore, so that its back came to be perceived above the level of the water, very much resembling in appearance the keel of a vessel turned bottom upwards. Upon this, Cæsar ordered a great number of nets to be extended at the mouth of the harbour, from shore to shore, while he himself went there with the prætorian cohorts, and so afforded a spectacle to the Roman people; for boats assailed the monster, while the soldiers on board showered lances upon it. I myself saw one of the boats[36] sunk by the water which the animal, as it respired, showered down upon it.

[34] These works were completed by Nero the successor of Claudius, and consisted of a new and more capacious harbour on the right arm of the Tiber. It was afterwards enlarged and improved by Trajan. This harbour was simply called "Portus Romanus," or "Portus Augusti;" and around it there sprang up a town known as "Portus," the inhabitants of which were called "Portuenses."

[35] "Naufragiis tergorum." This may probably mean a shipwreck, in which some hides had fallen into the sea.

[36] It is remarked by Rezzonico, that Palermus, in the account of this story given by him in B. i. c. 1, has mistaken Pliny's meaning, and evidently thinks that "unum" refers to the soldiers, and not the boats engaged in the attack.

CHAP. 6.—WHETHER FISHES RESPIRE, AND WHETHER THEY SLEEP.

Balænæ have the mouth[37] in the forehead; and hence it is that, as they swim on the surface of the water, they discharge vast showers of water in the air. (7.) It is universally agreed, however, that they respire, as do a very few other animals[38] in the sea, which have lungs among the internal viscera; for without lungs it is generally supposed that no animal can breathe. Those, too, who are of this opinion are of opinion also that no fishes that have gills are so constituted as to inhale and exhale alternately, nor, in fact, many other kinds of animals even, which are entirely destitute of gills. This, I find, was the opinion of Aristotle,[39] who, by his learned researches[40] on the subject, has induced many others to be of the same way of thinking. I shall not, however, conceal the fact, that I for one do not by any means at once subscribe to this opinion, for it is very possible, if such be the will of Nature, that there may be other organs[41] fitted for the purposes of respiration, and acting in the place of lungs; just as in many animals a different liquid altogether takes the place of blood.[42] And who, in fact, can find any ground for surprise, that the breath of life can penetrate the waters of the deep, when he

[37] "Ora." Cuvier remarks, that it is not the "mouth of the animal but the nostrils, that are situate on the top of the head, and that through these it sends forth vast columns of water." Aristotle, in his Hist. Anim. B. i. c. 3, has a similar passage, from which Pliny copied this assertion of his.

[38] Cuvier remarks, that these are the animals of the cetaceous class, which resemble the quadrupeds in the formation of the viscera, their respiration, and the mammæ; and which, in fact, only differ from them in their general form, which more nearly resembles that of fishes.

[39] Hist. Anim. B. viii. c. 2.

[40] "Doctrinæ indaginibus." This certainly seems a better reading than "doctrina indignis," which has been adopted by Sillig, and which would make complete nonsense of the passage.

[41] Dalechamps states that Cælius Rhodiginus, B. iv. c. 15, has entered very fully into this subject.

[42] Cuvier remarks, on this passage, that the mollusca have, instead of blood, a kind of azure or colourless liquid. He observes also, that insects respire by means of tracheæ, or elastic tubes, which penetrate into every part of the body; and that the gills of fish are as essentially an organ of respiration as the lungs. All, he says, that Pliny adds as to the introduction of air into water, is equally conformable to truth; and that it is by means of the air mingled with the water, or of the atmosphere which they inhale at the surface, that fishes respire.

sees that it is even exhaled[43] from them? and when we find, too, that it can even enter the very depths of the earth, an element of so much greater density, a thing that is proved by the case of animals which always live under ground, the mole for instance? There are other weighty reasons as well, which induce me to be of opinion that all aquatic animals respire, conformably to their natural organization; for, in the first place, there has been often remarked in fishes a certain degree of anhelation during the heat of summer, and at other times again, a kind of leisurely gaping,[44] as it were. And then, besides, we have the admission of those who are of the contrary opinion, that fishes do sleep; but what possibility is there of sleeping[45] without respiring as well? And again, we see their breath disengaged in bubbles which rise to the water's surface, and the influence too of the moon makes even the very shells[46] grow in bulk.

But the most convincing reason of all is, the undoubted fact that fishes have the power of hearing[47] and of smelling, two senses for the operation of both of which the air is a necessary vehicle; for by smell we understand nothing else than the air being charged with certain particles.[48] However, let every person form his own opinion on these subjects, just in such way as he may think best.

Neither the balæna nor the dolphin has any gills.[49] Both

[43] In the shape of vapour raised by the action of the sun. In accordance with this opinion, Cicero says, De Nat. Deor. B. ii. s. 27, "The air arises from the respiration of the waters, and must be looked upon as a sort of vapour coming from them."

[44] But, as Hardouin remarks, this act on the part of the fish is caused as much by the water as the air.

[45] As Hardouin remarks, this is a somewhat singular notion that sleep is produced by the action of the lungs.

[46] Hardouin asks, what this has to do with the question about the air which Pliny is here discussing? and then suggests that his meaning may possibly be, that the moon has an influence on bodies through the medium of the air, in accordance with the notion of the ancients that the respiration was more free during the time of full moon. Littré says, that Pliny's meaning is, that since the influence of the moon is able to penetrate the waters, the air and the vital breath can of course penetrate them also.

[47] See B. x. c. 89, where this subject is further discussed.

[48] "Infectum aera."

[49] See Aristotle, De Part. Anim. B. iv. c. 13, and Hist. Anim. B. viii. c. 2.

of these animals respire[50] through vent-holes, which communicate with the lungs; in the balæna they are on the forehead,[51] and in the dolphin on the back. Sea-calves, too, which we call "phocæ,"[52] breathe and sleep upon dry land—sea-tortoises also,[53] of which we shall have more to say hereafter.

CHAP. 7. (8.)—DOLPHINS.

The swiftest[54] not only of the sea animals, but of all animals whatever, is the dolphin.[55] He is more rapid in his move-

[50] Aristotle, Hist. Anim. B. i. c. 5.

[51] Cuvier remarks, that these nostrils, or vent-holes, are placed somewhat further back on the head in the dolphin than in the whale; but at the same time they cannot be said to be situate on the back of the animal.

[52] Or "seals." They will be further mentioned in c. 15 of the present Book.

[53] Or "turtles," which are more fully described in c. 21 of this Book.

[54] Aristotle, Hist. Anim. B. i. c. 74.

[55] Cuvier remarks, that in the present Chapter there is a confusion of the peculiarities of two different animals, and refers the reader to his Note on B. viii. c. 38, which, so far as it has not been set forth, is to the following effect:—"I may here remark, that Pliny speaks on several occasions of dolphins with spines or stings on the back, although at other times he is found to give that name to the same cetaceous animal which is so denominated by us. Thus, in his story in B. ix. c. 8, of the friendship conceived by a dolphin in Lake Lucrinus for a child at Baiæ, he takes care to remark that the dolphin, when taking the child on his back, concealed his spines beneath his dorsal fin. I am of opinion, however, that I have recognized the fish which Seneca, Pliny, and even Aristotle have sometimes confounded with the real dolphin, apparently because it had received that name from certain fishermen, and these are my reasons for forming this conclusion. In c. 7 of the Ninth Book, Pliny mingles with many facts that really do belong to the real dolphin, one trait which is quite foreign to it. 'It is so swift,' says he, 'that were it not for the fact that its mouth is situate much beneath its muzzle, almost, indeed, in the middle of its belly, not a fish would be able to escape its pursuit: in consequence of this, it can only seize its prey by turning on its back.' This, it must be observed, is not one of those mistakes which we are to put down to Pliny's own account, and of which he has so many; for we find Aristotle as well, who has so perfectly known and described the ordinary dolphin, attributing a mouth similarly situate to the dolphin and the cartilaginous animals. This fact, which is totally false as regards the real dolphin, is, in all probability, applicable to the alleged dolphin, whose back is mentioned as being armed with spines. These three characteristics, a mouth situate very far beneath the nose, spines on the back, and power and swiftness sufficient to enable it to fight the crocodile, are only to be found united in certain of the genus 'Squalus,' such as the 'Squalus centrina,' and the 'Squalus spinax' of Linnæus."

ments than a bird, more instantaneous than the flight of an arrow, and were it not for the fact that his mouth is situate much below his muzzle,[56] almost, indeed, in the middle of the belly, not a fish would be able to escape his pursuit. But Nature,[57] in her prudence, has thrown certain impediments in his way; for unless he turns, and throws himself on his back, he can seize nothing, and it is this circumstance more especially that gives proof of his extraordinary swiftness. For, if pressed by hunger,[58] he will follow a fish, as it flies down, to the very bottom of the water, and then after holding his breath thus long, will dart again to the surface to respire, with the speed of an arrow discharged from a bow; and often, on such occasions, he is known to leap out of the water with such a bound, as to fly right over the sails[59] of a ship.

Dolphins generally go in couples; the females bring forth their young in the tenth month, during the summer season, sometimes two in number.[60] They suckle their young at the teat like the balæna, and even carry them during the weakness of infancy; in addition to which, long after they are grown up, they accompany them, so great is their affection for their progeny. The young ones grow very speedily, and in ten years are supposed to arrive at their full size. The dol-

[56] Aristotle, Hist. Anim. B. viii. c. 5. From this description Hardouin is indueed to think that Rondelet and Aldrovandus are wrong in their conclusions that it is the sea-hog, or porpoise, that is meant. Cuvier also says, that this description will not apply to the real dolphin, though it is strictly applicable to the Squalus acanthias, Squalus ricinus, and others; to the former of which also the spines or stings mentioned by Pliny appropriately belong; all the other characteristics, he says, which are here mentioned by Pliny, are applicable to the real dolphin, though in modern times it has never been brought to such a degree of tameness. Hence it is that some writers have supposed that Pliny is here speaking of the Trichechus manatus of Linnæus, by the French called "lamentin," by us the "sea-cow." Cuvier says, that he should be inclined to be of the same opinion, were it not for the fact that that animal does not frequent the coasts of the Mediterranean.

[57] Copied literally from Aristotle, Hist. Anim. B. viii. c. 5, and De Part. Anim. B. iv. c. 13.

[58] Aristotle, Hist. Anim. B. ix. c. 74.

[59] Aristotle, Hist. Anim. B. ix. c. 48, says not the *sails*, but the *masts* of ships; and Pintianus remarks, that Pliny has been deceived by the resemblance of the words, ἱστὸς and ἱστίον. Ælian, Hist. Anim. B. xii. c. 12, has a similar statement also.

[60] Aristotle, Hist. Anim. B. vi. c. 9. Oppian, Halieut. B. i. l. 660.

phin lives thirty years; a fact that has been ascertained from cutting marks[61] on the tail, by way of experiment. It conceals itself for thirty days, at about the rising of the Dog-star, and hides itself so effectually, that it is not known whither it goes; a thing that is more surprising still, if it is unable to respire under water. Dolphins are in the habit of darting upon the shore, for some reason or other, it is not known[62] what. They do not die the moment that they touch the dry land, but will die much more speedily if the vent-hole is closed. The tongue, contrary to the nature of aquatic animals in general, is moveable, being short and broad, not much unlike that of the pig. Instead of a voice, they emit a moaning sound[63] similar to that made by a human being; the back is arched, and the nose turned up. For this reason[64] it is that they all recognize in a most surprising manner the name of Simo, and prefer to be called by that rather than by any other.

CHAP. 8.—HUMAN BEINGS WHO HAVE BEEN BELOVED BY DOLPHINS.

The dolphin is an animal not only friendly to man, but a lover of music as well; he is charmed by melodious concerts,[65]

[61] Fishermen having notched the tail of the animal when young, and recognized it by these marks thirty years afterwards.

[62] "Incertâ de causâ." Pintianus, following the similar account given by Aristotle, Hist. Anim. B. ix. c. 48, takes the words to mean "temere," "hap-hazard," "without any motive whatever." Ajasson says that it is their eager pursuit of small fishes which sometimes betrays them *into* leaping on shore, and occasionally, the pain caused by attacks of parasitical sea-insects and other animals.

[63] Aristotle, Hist. Anim. B. iv. c. 49, says that the dolphin makes this noise when it comes to the air.

[64] He would seem to imply that the dolphin knows that it is "simus," or "flat-nosed," for which reason it is particularly fond of being called "Simo," or "flat-nose," a piece of good taste and intelligence remarkable even in a dolphin. Hardouin undertakes to explain their remarkable liking for this name on other grounds, and says that when a song was sung, they were charmed by the pronunciation of the word "Simo" every now and then, the last syllable being drawn out at great length. Ajasson suggests that the only reason for which this name delighted them, was probably the sibilant or hissing sound made when it is frequently repeated.

[65] "Symphoniæ cantu." Hardouin is of opinion that this means the music of the "symphonia," that being some kind of musical instrument. But, as Ajasson remarks, the meaning is much more likely to be, "singing in concert," where there are several performers, and each takes his own part in the symphony. It might, however, possibly mean singing and

and more especially by the notes of the water-organ.[66] He does not dread man, as though a stranger to him, but comes to meet ships, leaps and bounds to and fro, vies with them in swiftness, and passes them even when in full sail.

In the reign[67] of the late Emperor Augustus, a dolphin which had been carried to the Lucrine Lake[68] conceived a most wonderful affection for the child of a certain poor man, who was in the habit of going that way from Baiæ to Puteoli[69] to school, and who used to stop there in the middle of the day, call him by his name of Simo, and would often entice him to the banks of the lake with pieces of bread which he carried for the purpose. I should really have felt ashamed to mention this, had not the incident been stated in writing in the works of Mæcenas, Fabianus, Flavius Alfius, and many others. At whatever hour of the day he might happen to be called by the boy, and although hidden and out of sight at the bottom of the water, he would instantly fly to the surface, and after feeding from his hand, would present his back for him to mount, taking care to conceal the spiny projection of his fins[70] in their sheath, as it were; and so, sportively taking him up on his back, he would carry him over a wide expanse

music combined, similar to the performance of Arion, mentioned at the end of the Chapter.

[66] The organ was so called by the ancients, from the resemblance borne by its pipes to "hydraula," or water-pipes, and from the fact of the bellows being acted on by the pressure of water. According to an author quoted by Athenæus, B. iv. c. 75, the first organist was Ctesibius of Alexandria, who lived about B.C. 200. It is not improbable that Pliny refers to this invention in B. vii. c. 38. The pipes of the organ of Ctesibius were partly of bronze and partly of reed, and Tertullian describes it as a very complicated instrument.

[67] Ælian, Hist. Anim. B. vi. c. 15, tells this story as well, and Aulus Gellius, B. vii. c. 8, relates it from the fifth Book of the Ægyptiaca of Apion, who stated that he himself had witnessed the fact.

[68] The Lucrine Lake originally communicated with the sea, but was afterwards separated from the Bay of Cumæ by a dyke eight stadia in length. In the time of Augustus, however, Agrippa opened a communication between the Lake and the Bay, for the purpose of forming the Julian harbour. If the circumstance here mentioned by Pliny happened before this period, "invectus" must mean "carried by human agency;" but if after, it is possible that the fish may have been carried into the lake by the tide. For an account of the lake, see B. iii. c. 9.

[69] See B. iii. c. 9.

[70] "Pinnarum aculeas." See the remarks of Cuvier on this passage, and his conclusion as to the fish meant, in his Note in p. 369.

of sea to the school at Puteoli, and in a similar manner bring him back again. This happened for several years, until at last the boy happened to fall ill of some malady, and died. The dolphin, however, still came to the spot as usual, with a sorrowful air and manifesting every sign of deep affliction, until at last, a thing of which no one felt the slightest doubt, he died purely of sorrow and regret.

Within these few years also,[72] another at Hippo Diarrhytus,[73] on the coast of Africa, in a similar manner used to receive his food from the hands of various persons, present himself for their caresses, sport about among the swimmers, and carry them on his back. On being rubbed with unguents by Flavianus, the then proconsul of Africa, he was lulled to sleep, as it appeared, by the sensation of an odour so new to him, and floated about just as though he had been dead. For some months after this, he carefully avoided all intercourse with man, just as though he had received some affront or other; but at the end of that time he returned, and afforded just the same wonderful scenes as before. At last, the vexations that were caused them by having to entertain so many influential men who came to see this sight, compelled the people of Hippo to put the animal to death.

Before this, there was a similar story told of a child at the city of Iasus,[74] for whom a dolphin was long observed to have conceived a most ardent affection, until at last, as the animal was eagerly following him as he was making for the shore,[75] it was carried by the tide on the sands, and there expired. Alexander the Great appointed this boy[76] high priest of Neptune at Babylon, interpreting this extraordinary attachment as a convincing proof of the favour of that divinity.

Hegesidemus has also informed us, that in the same city[77] of

[72] Oppian, in his Halieutica, B. v. l. 453, mentions this story also, and of course Solinus does.

[73] See B. v. c. 3.

[74] The island and city of Caria. See B. v. c. 29.

[75] Being alarmed by the pursuit of the fish while he was swimming.

[76] Athenæus, B. xiii., tells this story more at large, and states that the name of the child was Dionysius. Hardouin remarks, that Solinus, the ape of Pliny, has absolutely read this passage as though the child's name had been Babylon; upon the strength of which, Saumaise had proposed to alter the reading in Pliny, not remembering at the time that the boy's name had been given by Athenæus

[77] This story is also told by Plutarch, in his work on the Instincts of Animals.

Iasus there was another boy also, Hermias by name, who in a similar manner used to traverse the sea on a dolphin's back, but that on one occasion a tempest suddenly arising, he lost his life, and was brought back dead; upon which, the dolphin, who thus admitted that he had been the cause of his death, would not return to the sea, but lay down upon the dry land, and there expired.

Theophrastus[78] informs us, that the very same thing happened at Naupactus also; nor, in fact, is there any limit to similar instances. The Amphilochians[79] and the Tarentines[80] have similar stories also about children and dolphins; and all these give an air of credibility to the one that is told of Arion,[81] the famous performer on the lyre. The mariners being on the point of throwing him into the sea, for the purpose of taking possession of the money he had earned, he prevailed upon them to allow him one more song, accompanied with the music of his lyre. The melody attracted numbers of dolphins around the ship, and, upon throwing himself into the sea, he was taken up by one of them, and borne in safety to the shore of the Promontory of Tænarum.[82]

CHAP. 9.—PLACES WHERE DOLPHINS HELP MEN TO FISH.

There is in the province of Gallia Narbonensis and in the territory of Nemausus[83] a lake known by the name of Latera,[84] where dolphins fish in company with men. At the

[78] Aulus Gellius, B. vii. c. 8, mentions this story, borrowing it probably from Theophrastus.

[79] The people of the territory in which Amphilochian Argos was situate, and lying to the south of Ambracia. See B. iv. c. 2.

[80] The people of Tarentum. See B. iii. c. 16.

[81] Ovid tells the story of Arion more fully, and in beautiful language, in the Fasti, B. ii. l. 92, *et seq.*

[82] A promontory in the south of Laconia, now Cape Matapan. See B. iv. c. 7. Solinus, c. 7, tells us that there was a temple of Arion of Methymna, situate on this spot, in which there was a figure of him seated on a dolphin's back, and made of bronze; with an inscription stating that this wonderful circumstance took place in the 29th Olympiad, in which year Arion had been victorious in the Sicilian games. Philostorgius, in B. i. of his Ecclesiastical History, tells us also of a martyr who was saved by a dolphin, which bore him to Helenopolis, a city of Nicomedia.

[83] Now Nismes. See B. iii. c. 5.

[84] Still known as the Lake of Lattes, in the department of Narbonne. Cuvier says that the mullet-fishing is still carried on in this lake, which is

narrow outlet[85] of this lake, at stated seasons of the year innumerable multitudes of mullets make their way into the sea, taking advantage of the turn of the tide; hence it is that it is quite impossible to employ nets sufficiently strong to bear so vast a weight, even though the fish had not the instinctive shrewdness to watch their opportunity. By a similar instinct the fish immediately make with all speed towards the deep water which is found in a gulf in that vicinity, and hasten to escape from the only spot that is at all convenient for spreading the nets. As soon as ever the fishermen perceive this, all the people—for great multitudes resort thither, being well aware of the proper time, and especially desirous of sharing in the amusement—shout as loud as they can, and summon Simo to the scene of action. The dolphins very quickly understand that they are in requisition, as a north-east wind speedily carries the sound to their retreats, though a south one would somewhat retard it by carrying it in an opposite direction. Even then however, sooner than you could have possibly supposed, there are the dolphins, in all readiness to assist. They are seen approaching in all haste in battle array, and, immediately taking up their position when the engagement is about to take place, they cut off all escape to the open sea, and drive the terrified fish into shallow water. The fishermen then throw their nets, holding them up at the sides with forks, though the mullets with inconceivable agility instantly leap over them;[86]

on the shores of Languedoc, and refers to D'Astruc's Memoirs on the Natural History of that province. The dolphins, however, he says, no longer take part in the sport; and he observes that the same story is told by Ælian, B. ii. c. 8, and Albertus Magnus, De Anim. B. xxiv., with reference to other places. Oppian, in his Halieutica, B. v., makes Eubœa the scene of these adventures, while Albertus Magnus speaks of the shores of Italy. Rondelet, in his Book on Fishes, says that it used to take place on the coasts of Spain, near Palamos. Cuvier suggests, with Belon and D'Astruc, that the story arose from the fact that the dolphins, while pursuing the shoals of mullets, sometimes drove them into the creeks and salt-water lakes on the coast; a fact which has been sometimes found to cause the fish to be caught in greater abundance.

[85] Dalechamps tells us that the people of Montpellier call this outlet "La Crau," and that it is in the vicinity of Mangueil.

[86] Were it not for the word "nihilominus" here, it would look as if the meaning were, that although the ends of the nets are hoisted up, the fish are so active that they jump over the side, and thus get enclosed. By the use of that word, however, it would seem to mean, that although the sides are hoisted up, the fish are so nimble, that they clear the nets altogether.

while the dolphins, on the other hand, are waiting in readiness to receive them, and content themselves for the present with killing them only, postponing all thoughts of eating till after they have secured the victory. The battle waxes hot apace, and the dolphins, pressing on with the greatest vigour, readily allow themselves to be enclosed in the nets; but in order that the fact of their being thus enclosed may not urge the enemy to find additional means of flight, they glide along so stealthily among the boats and nets, or else the swimmers, as not to leave them any opening for escape. By leaping, which at other times is their most favourite amusement, not one among them attempts to make its escape, unless, indeed, the nets are purposely lowered for it; and the instant that it has come out it continues the battle, as it were, up to the very ramparts. At last, when the capture is now completed, they devour those among the fish which they have killed;[87] but being well aware that they have given too active an assistance to be repaid with only one day's reward, they take care to wait there till the following day, when they are filled not only with fish, but bread crumbs soaked in wine as well.

CHAP. 10.—OTHER WONDERFUL THINGS RELATING TO DOLPHINS.

The account which Mucianus gives of a similar mode of fishing in the Iasian Gulf differs from the preceding one, in the fact that there the dolphins make their appearance of their own accord, and do not require to be called: they receive their share from the hands of the people, each boat having its own particular associate among the dolphins; and this, although the fishing is carried on at night-time by the light[88] of torches.

If the latter is the meaning, Pliny probably intends to speak only of what some of them are able to do: otherwise it is hard to see of what utility the nets were in the operation.

[87] "Quos interemere." Pintianus suggests "æquo interim jure"—"with equal rights," instead of these words, and Pelicier does not disapprove of the suggestion; for Ælian states, in B. ii. c. 8, Hist. Anim., that the dolphins used to share the fish equally with the fishermen of Eubœa. But, as Hardouin says, the words "quos interemere" have reference to the statement above, that "they content themselves for the present with killing them only." And besides, if the fishermen gave them an equal share, it is not likely that they would give them still more of the fish on the following day.

[88] Ælian also mentions this, Hist. Anim. B. ii. c. 8.

Dolphins, also, form among themselves[89] a sort of general community. One of them having been captured by a king of Caria and chained up in the harbour, great multitudes of dolphins assembled at the spot, and with signs of sorrow which could not be misunderstood, appealed to the sympathies of the people, until at last the king ordered it to be released. The young dolphins, also, are always attended[90] by a larger one, who acts as a guardian to them; and before now, they have been seen[91] carrying off the body of one which had died, that it might not be devoured by the sea-monsters.

CHAP. 11. (9.)—THE TURSIO.

There is a fish called the tursio,[92] which bears a strong resemblance to the dolphin; it differs from it, however, in a certain air of sadness, and is wanting in its peculiar vivacity. This animal most resembles the dog-fish,[93] however, in the shape and dangerous powers of the muzzle.

CHAP. 12. (10.)—TURTLES.[94] THE VARIOUS KINDS OF TURTLES, AND HOW THEY ARE CAUGHT.

The Indian Sea[95] produces turtles of such vast[96] size, that with the shell of a single animal they are able to roof a habit-

[89] The same is stated in Aristotle, Hist. Anim. B. ix. c. 74, and Ælian, Hist. Anim. B. v. c. 6.

[90] This is also mentioned by Aristotle, Hist. Anim. B. ix. c. 74.

[91] Ælian, Hist. Anim. B. xii. c. 6.

[92] Cuvier remarks, that there is some confusion here between an animal of the dolphin kind, and another of the genus Squalus. He suggests that the Delphinus tursio of Linnæus (our porpoise) is meant; but then there would be no ground for comparing its teeth with those of the dog-fish or shark. He remarks also, that Athenæus, B. vii. p. 310, speaks of pieces of salted flesh from the dog-fish, as being called by the name of tursio.

[93] Under this name he probably means the shark as well as the dog-fish. This passage is curiously rendered by Holland. "But especially they are snouted like dogges, when they snarle, grin, and are readie to do a shrewd turne."

[94] We may here remark, that Pliny throughout calls these animals "testudines,"—"tortoises." It has been thought better, in the translation, in order to avoid confusion, to give them their distinctive name of "turtle."

[95] This passage, down to the words "to the fishermen," is found in Agatharchides, as quoted by Photius.

[96] See B. xxxii. c. 4.

able cottage;[97] and among the islands of the Red Sea, the navigation is mostly carried on in boats formed of these shells. They are to be caught in many ways; but they are generally taken when they have come up to the surface of the water just before midday, a season at which they experience great delight in floating on the calm surface, with the back entirely out of the water. Here the delightful sensations[98] which attend a free respiration beguile them to such a degree, and render them so utterly regardless of their safety, that their shell becomes dried up by the heat of the sun, so much so, indeed, that they are unable to descend, and, having to float against their will, become an easy prey to the fishermen. It is said also, that they leave the water at night for the purpose of feeding, and eat with such avidity as to quite glut themselves: upon which, they become weary, and the moment that, on their return in the morning, they reach the sea, they fall asleep on the surface of the water. The noise of their snoring betrays them, upon which the fishermen stealthily swim towards the animals, three to each turtle; two of them, in a moment, throw it on its back, while a third slings a noose around it, as it lies face upwards, and then some more men, who are ready on shore, draw it to land.

In the Phœnician Sea they are taken without the slightest difficulty, and, at stated periods of the year, come of their own accord to the river Eleutherus,[99] in immense numbers. The turtle has no teeth, but the edge of the mouth is sharp, the upper part shutting down over the lower just like the lid of a box. In the sea it lives upon shell-fish,[1] and such is the strength of its jaws, that it is able to break stones even; when on shore, it feeds upon herbage. The female turtle lays eggs like those of birds, one hundred in number; these she buries on the dry land, and covering them over with earth, pats it down with her breast, and then having thus rendered it smooth, sits on them during the night. The young are hatched in the course of a

[97] Cuvier says that this is evidently a gross exaggeration on the part of some traveller; and Ajasson remarks, that the very largest turtle known does not exceed five feet in length, and four in breadth. In such a case, the superficies of the calapash or shell would be only from twenty to twenty-four feet, and this, be it remembered, in one of the very largest size.

[98] Aristotle, Hist. Anim. B. viii. c. 3, has a similar passage.

[99] See B. v. c. 17.

[1] Aristotle, Hist. Anim. B. viii. c. 3, states to a similar effect.

year. Some persons are of opinion that they hatch their eggs by means of the eyes, by merely looking at them, and that the female refuses to have any intercourse with the male until he has placed a wisp of straw[2] upon her back. The Troglodytæ have turtles with horns,[3] which resemble the branches of a lyre; they are large, but moveable, and assist the animal like so many oars while swimming. The name of this fine, but rarely-found turtle, is "chelyon;"[4] for the rocks, from the sharpness of their points, frighten away the Chelonophagi,[5] while the Troglodytæ, whose shores these animals frequent, worship them as sacred. There are some land turtles also, the shells of which, used for the purposes of art, are thence called by the name of "chersinæ;"[6] they are found in the deserts of Africa, in the parts where the scorched sands are more especially destitute of water, and subsist, it is believed, upon the moisture of the dews. No other animal is to be found there.

CHAP. 13.—(11.)—WHO FIRST INVENTED THE ART OF CUTTING TORTOISE-SHELL.

Carvilius Pollio, a man of prodigal habits and ingenious in inventing the refinements of luxury, was the first to cut the shell of the tortoise into laminæ, and to veneer beds and cabinets[7] with it.

CHAP. 14. (12.)—DISTRIBUTION OF AQUATIC ANIMALS INTO VARIOUS SPECIES.

The integuments of the aquatic animals are many in num-

[2] Oppian, Halieut. B. i. l. 522, has a passage to a somewhat similar effect. Holland's notion of the meaning of this passage is singular in the extreme. "The female fleeth from the male, and will not abide to engender, until such time as he pricke her behind, and sticke somewhat in her taile for running away from him so fast"

[3] Cuvier remarks, that it is evident that the fore-feet were here taken for horns, they being in the turtle long, narrow, and pointed.

[4] From the Greek χέλυον, "tortoise-shell." See B. vi. c. 34.

[5] Or "turtle eaters." See B. vi. c. 28.

[6] From χερσινάι, "land turtles," or "tortoises."

[7] "Repositorium" seems to have been the name for a large tray upon which viands were brought to table; and probably for stands similar to our sideboards, as well as cabinets or wardrobes. Carvilius Pollio, a Roman eques, lived in the time of the Dictator Sylla, and was celebrated for his luxury in ornamental furniture. He is again mentioned by Pliny in B. xxx. c. 51.

ber. Some are covered with a hide and hair, as the sea-calf and hippopotamus, for instance; others again, with a hide only, as the dolphin; others again, with a shell,[8] as the turtle; others, with a coat as hard as a stone, like the oyster and other shell-fish; others, with a crust, such as the cray-fish; others, with a crust and spines, like the sea-urchin; others, with scales, as fishes in general; others, with a rough skin, as the squatina,[9] the skin of which is used for polishing wood and ivory; others, with a soft skin, like the muræna;[10] and others with none at all, like the polypus.[11]

CHAP. 15. (13.)—THOSE WHICH ARE COVERED WITH HAIR, OR HAVE NONE, AND HOW THEY BRING FORTH. SEA-CALVES, OR PHOCÆ.

Those aquatic animals which are covered with hair are viviparous, such, for instance, as the pristis, the balæna,[12] and the sea-calf. This last brings forth its young on land, and, like the sheep, produces an after-birth. In coupling, they adhere after the manner of the canine species; the female sometimes produces even more than two, and rears her young at the breast. She does not take them down to the sea until the twelfth day, and after that time makes them become used to it by degrees.[13] These animals are killed with the greatest dif-

[8] The Latin is "cortex," which probably means a "bark," or "rind." Ajasson remarks upon the meagreness of the Latin language, in supplying appropriate words for scientific purposes, and congratulates himself upon adding the word, "carapax," (signifying "callipash," as we call it) to the Latin vocabulary.

[9] By us known as the "angel-fish," the "Squalus squatina" of Linnæus, a kind of shark. From this property of its skin, it was called by the Greeks ῥίνη, the "file." See B. xxxii. c. 53.

[10] Probably the Muræna helena of Linnæus. See more on it in c. 23 of the present Book.

[11] Spoken of more fully in c. 23 of this Book.

[12] Cuvier remarks, how very inappropriately Pliny places the pristis (probably the saw-fish) and the balæna among the animals that are covered with hair. Aristotle, he says, in his Hist. Anim. B. vi. c. 12, goes so far as to say that the pristis and the ox-fish (a kind of ray or thorn-back, probably) bring forth their young like the balæna and the dolphin, but does not go beyond that. Cuvier says also, that what is here stated of the sea-calf is in general correct, except the statements as to the properties of its skin and its right fin, the stories relative to which are, of course, neither more nor less than fabulous.

[13] Aristotle, Hist. Anim. B. vi. c. 11, states to the like effect.

ficulty, unless the head is cut off at once. They make a noise which sounds like lowing, whence their name of "sea-calf." They are susceptible, however, of training, and with their voice, as well as by gestures, can be taught to salute the public; when called by their name, they answer with a discordant kind of grunt.[14] No animal has a deeper sleep[15] than this; on dry land it creeps along as though on feet, by the aid of what it uses as fins when in the sea. Its skin, even when separated from the body, is said to retain a certain sensitive sympathy with the sea, and at the reflux[16] of the tide, the hair on it always rises upright: in addition to which, it is said that there is in the right fin a certain soporiferous influence, and that, if placed under the head, it induces sleep.

(14.) There are only two animals without hair that are viviparous, the dolphin and the viper.[17]

CHAP. 16.—HOW MANY KINDS OF FISH THERE ARE.

There are seventy-four[18] species of fishes, exclusive of those

[14] "Fremitu." From their lowing noise, the French have also called these animals "veaux de mer," and we call them "sea-calves." Ælian. Hist. Anim. B. xii. c. 56, and Diodorus Siculus, B. iii., also speak of training the sea-calf. Hardouin says that Lopez de Gomara, one of the more recent writers on Mexico, in his day, had given an account of an Indian sea-calf, or manati, as it was called by the natives, that had become quite tame, and answered readily to its name; and that, although not very large, it was able to bear ten men on its back. He also tells us of a much more extraordinary one, which Aldrovandus says he himself had seen at Bologna, which would give a cheer (vocem ederet) for the Christian princes when asked, but would refuse to do so for the Turks; just, Hardouin says, as we see dogs bark, and monkeys grin and jump, at the mention of a particular name.

[15] Oppian, Halieut. B. i. l. 408, mentions this fact, and Juvenal, Sat iii. l. 238, alludes to it: "Would break the slumbers of Drusus and of sea-calves."

[16] This assertion, though untrue, no doubt, as to sympathy with the tides, is in some degree supported by the statement of Rondelet, B. xvi. c. 6, who says that he had often perceived changes in the wind and weather prognosticated by the hide of this animal; for that when a south wind was about to blow, the hair would stand erect, while when a north wind was on the point of arising, it would lie so flat that you would hardly know that there was any hair on the surface.

[17] Hardouin remarks, that Pliny classes the viper probably among the aquatic animals, either because it was said to couple with the muræna, or else because it has a womb not unlike that of the cartilaginous fishes.

[18] Hardouin suggests that the proper reading here is probably 144, be-

that are covered with crusts; the kinds of which are thirty in number. We shall, on another occasion,[19] speak of each individually; but, for the present, we shall treat only of the nature of the more remarkable ones.

CHAP. 17. (15.)—WHICH OF THE FISHES ARE OF THE LARGEST SIZE.

Tunnies are among the most remarkable for their size; we have found one weighing as much as fifteen[20] talents, the breadth of its tail being five cubits and a palm.[21] In some of the rivers, also, there are fish of no less size, such, for instance, as the silurus[22] of the Nile, the isox[23] of the Rhenus, and the

cause in B. xxxii. c. 51, Pliny speaks of 174 different kinds of fishes, and here he says that the crustacea are thirty in number. Daubenton speaks of the species of fishes as being 866 in number, while Lacèpede says that he had examined more than a thousand, but that was far below the real number. Cuvier mentions specimens of about 6000 kinds of fishes, in the Cabinet du Roi. Ajasson remarks upon the learned investigations of Cuvier on this subject, and his researches in Sumatra, Java, Kamschatka, New Zealand, New Guinea, and elsewhere, for the purpose of increasing the list of the known kinds of fishes.

[19] B. xxx. c. 53.

[20] About 1200 pounds. Cetti, in his "Natural History of Sardinia," vol. iii. p. 134, says that tunnies weighing a thousand pounds are far from uncommon, and that they have been taken weighing as much as 1800 pounds.

[21] The same as the Latin "dodrans," or about nine inches. This passage is taken almost verbatim from Aristotle, Hist. Anim. c. 34. Cuvier says that this passage, although like the preceding one, taken from Aristotle, is much more incredible, (though Lacèpede, by the way, disputes Pliny's statement as to the weight of the tunny). "A distance," Cuvier says, "of from seven to eight feet from one point of the fork of the tail to the other, would denote a fish twenty-five feet in length; and it must be observed, that most of the MSS. of Pliny say *two* cubits." Aristotle, however, beyond a doubt says *five*.

[22] Now universally recognized as the sly silurus, or sheat-fish, called in the United States the horn-pout, the Silurus glanis of Linnæus. On this formerly much-discussed question, Cuvier has an interesting Note. "There can now be no longer any doubt as to the silurus; it is evidently synonymous with the 'glanis' of Aristotle; as we find Pliny, in c. 17 and 51, giving the same characteristics of the silurus, as Aristotle does of the glanis, Hist. Anim. B. viii. c. 20, and B. ix. c. 37; such, for instance, as the care it takes of its young, and the effects produced upon it by the dog-fish and the approach of storms. It is easy to prove also that it is not the sturgeon, [as Hardouin thought it to be], but the fish that is still called 'silurus' by the naturalists, the 'wels' or 'schaid' of the Germans, the 'saluth' of the Swiss, &c."

[23] Cuvier remarks, that it is by no means clear what fish is meant by

attilus[24] of the Padus, which, naturally of an inactive nature, sometimes grows so fat as to weigh a thousand pounds, and when taken with a hook, attached to a chain, requires a yoke of oxen to draw it[25] on land. An extremely small fish, which is known as the clupea,[26] attaches itself, with a wonderful tenacity, to a certain vein in the throat of the attilus, and destroys it by its bite. The silurus carries devastation with it wherever it goes, attacks every living creature, and often drags beneath the water horses as they swim. It is also remark-

this name, which is only found here and once in Hesychius, who calls it κητώδης, "of the large kind." Rondelet, in his account of river fish, suggests that "exos" is the proper reading, and that under this name is meant a species of sturgeon. Gesner asks if it might not possibly have been the "brochet;" but, as Cuvier says, that fish was well-known to the Romans under the name of "lucius" [our pike], and it is not sufficiently large for Pliny to compare it to the wels or the attilus, and for Hesychius to have enumerated it among the "large" fishes. It is in accordance, however, with this suggestion of Gesner that the pike genus bears the name of "esox" in modern Natural History.

[24] Cuvier says that there are found in the river Padus, or Po, several species of very large sturgeons, and that there is one of these which still bears the name, according to Salvian and Rondelet, of adello and adilo. Aldrovandus, he says, calls it adelo or ladano. This Cuvier takes to be the attilus of Pliny. But, according to Rezzonico, Paulus Jovius denies that the attilus or *adelus* of the people of Ferrara is of the sturgeon genus; but says that it is so much larger than the sturgeon, and so different in shape, flavour, value, and natural habits, that the names of these two fishes were used proverbially by the people, when they were desirous to signify two objects of totally different nature. Rezzonico remarks, that the name given to it in Ferrara was properly "l'adano," which became corrupted into "ladano," and expresses it as his opinion that it was the same with the esox of the Rhine. He also states, that, from the exceeding whiteness of the flesh, the ladano was called by the fishermen, *sturione bianco*.

[25] Rezzonico says that this may possibly have happened in Pliny's day, but that in modern times no attilus or ladano is found weighing more than 500 pounds. He says that this fish may, in comparison with the sturgeon, be aptly called an inert fish; for while the sturgeon makes the greatest possible resistance to the fishermen, the other is taken with the greatest ease.

[26] Cuvier says, that this was probably the Petromyzon branchialis of Linnæus, the lampillon, a little fish resembling a worm, which adheres to the gills of other fish, and sucks the blood. The same name was also given to the Clupea alosa of Linnæus, our "shad;" indeed Linnæus gave this name to the whole herring and pilchard genus, erroneously classing them with the shad.

able, that in the Mœnus,[27] a river of Germany, a fish that bears[28] a very strong resemblance to the sea-pig, requires to be drawn out of the water by a yoke of oxen; and, in the Danube, it is taken with large hooks of iron.[29] In the Borysthenes, also, there is said to be a fish of enormous size, the flesh of which has no bones or spines in it, and is remarkable for its sweetness.

In the Ganges, a river of India, there is a fish found which they call the platanista;[30] it has the muzzle and the tail of the dolphin, and measures sixteen cubits in length. Statius Sebosus says, a thing that is marvellous in no small degree, that in the same river there are fishes[30*] found, called worms; these have two gills,[31] and are sixty cubits in length; they are

[27] The Main of the present day. But Dalechamps would read "Rheno;" for, he says, this river was not known to the ancients by the name of Mœnus.

[28] According to Albertus Magnus, this fish, which so strongly resembled the sea-pig, or porpoise, was the huso, a kind of sturgeon.

[29] See B. iv. c. 26. Cuvier says, that the fish here alluded to, is one of the large species of sturgeon, so common in the rivers that fall into the Black Sea, the bones of which are cartilaginous, and the flesh is generally excellent eating.

[30] Cuvier says, that this is probably the dolphin of the Ganges; a fish described by Dr. Roxburgh, in his "Account of Calcutta," vol. vii. This fish, he says, has the muzzle and the tail of the common dolphin; but he declines to assert that it attains the length of sixteen cubits.

[30*] Solinus gives an account of these worms of the Ganges, also from Sebosus, but not exactly to the same effect as Pliny. He says, that they are of an azure colour, are *six* cubits in length, and that they have *two arms*. He gives the same account as to their extraordinary strength.

[31] It is evident that there is some mistake in the MSS. either of Solinus or Pliny, as they both copied from the same source. Pliny speaks of "branchiæ," or gills, while Solinus mentions "brachia," or arms; the former, however, appears to be the preferable reading. Cuvier remarks that Ctesias, in his Indica, c. 27, has given a similar account, but that the worm mentioned by him has two *teeth*, and not *gills*, and that it only seizes oxen and camels, and not elephants. He states also, that an oil was extracted from it, which set on fire everything that it touched. Cuvier observes, that in most of the MSS. of Pliny the worm is sixty cubits long, instead of six, as in some few, a length which was quite necessary to enable it to devour an elephant; and he suggests that some large conger or muræna may have originally given rise to the story. It is by no means improbable that some individuals of the boa or python tribe, in the vicinity of the river, may have been taken for vast fish or river worms. Among the German traditions, we find the name "worm" given to huge serpents, which are said to have spread devastation far and wide; and in the north of England legends about similar "worms," are by no means uncommon: the story about the "Laidly Worm," in the county of Durham, for instance.

of an azure colour, and have received their name from their peculiar conformation. These fish, he says, are of such enormous strength, that with their teeth they seize hold of the trunks of elephants that come to drink, and so drag them into the water.

CHAP. 18.—TUNNIES, CORDYLA, AND PELAMIDES, AND THE VARIOUS PARTS OF THEM THAT ARE SALTED. MELANDRYA, APOLECTI, AND CYBIA.

The male tunny has no ventral fin;[32] these fish enter the Euxine in large bodies from the main[33] sea, in the spring, and will spawn nowhere else. The young ones, which in autumn accompany the females to the open sea, are known as "cordyla."[34] In the spring they are called "pelamides,"[35] from πηλὸς, the Greek for "mud," and after they are a year old, "thynni." When this fish is cut up into pieces, the neck, the belly, and the throat,[36] are the most esteemed parts; but they must be eaten only when they are quite fresh, and even then they cause severe fits of flatulence; the other parts; with the flesh entire, are preserved in salt. Those pieces, which bear a resemblance to an oaken board, have thence received the name of "melandrya."[37] The least esteemed among these parts are those which are the nearest to the tail, because they have no fat upon them; while those parts are considered the most delicate, which lie nearest the neck;[38] in other fishes,

[32] Although taken primarily from Aristotle, Hist. Anim. B. v. c. 9, as Cuvier observes, this assertion is incorrect, as the male does not in any way differ from the female in the conformation of the fins. Pliny, however, has exaggerated the statement of Aristotle, who only says, that the female differs from the male in having a little fin under the belly, which the male has not; and not that the male has no ventral fin whatever.

[33] "Magno mari;" meaning, no doubt, the Mediterranean.

[34] Aristotle, Hist. Anim. B. vi. c. 17.

[35] Or "mud-fish," either from being born in mud, as Festus says, or from their concealing themselves in it.

[36] "Clidio." The "clidion," or "clidium," was the part of the fish which extended, as Festus says, from the two shoulders (armos) to the breast. The "claviculæ" were thus called by the Greek physicians.

[37] The Greeks called the inner part, or black-coloured heart of the oak, μέλαν δρυὸς, whence the present name. Athenæus, B. vi. speaks of the choice parts cut from the orcyni, large tunnies, which were taken in the straits of Gades.

[38] "Faucibus." Cuvier observes, that modern experience has confirmed

however, the parts about the tail have the most nutriment[39] in them. The pelamides are cut up into small sections, known as "apolecti;"[40] and these again are divided into cubical pieces, which are thence called "cybia."[41]

CHAP. 19.—THE AURIAS AND THE SCOMBER.

All kinds of fish grow[42] with remarkable rapidity, and more especially those in the Euxine; the reason[43] of which is the vast number of rivers which discharge their fresh water into it. One fish, the growth of which is quite perceptible, day by day, is known as the amia.[44] This fish, and the pelamides, together with the tunnies,[45] enter the Euxine in shoals, for the purpose of obtaining a sweeter nutriment, each under the command of its own leader; but first of all the scomber[46] ap-

what Pliny says, as to the difference of flavour in these various parts of the tunny. He refers to Cetti, *Ist. Nat. di Sardegna*, vol. iii. p. 137.

[39] "Exercitatissima." "In greatest request, as being most stirred and exercised," is the translation given by Holland; while Littré renders it "mieux nourries," "best nourished." According to the general notion in this country, the part about the tail is reckoned inferior, and anything but the "best nourished." It is doubtful if "exercitatissima" is the correct reading; and if it is, its precise meaning has yet to be ascertained.

[40] From the Greek ἀπόλεκτοι, "choice bits," or, as we should say, "tit-bits."

[41] From the Greek κύβια.

[42] Aristotle, Hist. Anim. B. vi. c. 16.

[43] Aristotle, Hist. Anim. B. viii. c. 25.

[44] This fish does not seem to have been exactly identified till recently; but was generally supposed to have been of the tunny genus. Appian says, that it is rather smaller than the tunny. Rondelet, B. viii., speaks of it as being, in his time, known by the name of "byza." Cuvier has the following remark. "The 'amia' of the ancients, as Rondelet was well aware, was the same fish, to which, incorrectly, upon nearly all the coasts of the Mediterranean, the name of 'pelamis' has been transferred. It is, in fact, the same as the 'limosa' of Salvianus, the 'pelamis' of Belon, the 'thynnus primus' of Aldrovandus, and the 'scomber sarda' of Bloch. The proof of all these being synonymous, is the fact, that the 'scomber sarda' is the only species of the tunny genus in the Mediterranean, which has strong, sharp, cutting teeth, and is capable of attacking large fish, which Aristotle relates respecting the amia, Hist. Anim. B. ix. c. 37. The same author too, was well aware of the length of its gall-bladder, which is greater than in most other fishes."

[45] Aristotle, Hist. Anim. B. viii. c. 16.

[46] Generally supposed, as Cuvier says, to have been the same as the mackerel, or Scomber scombrus of Linnæus, and with very fair reason. From the frequent remarks made on the subject by the Roman poets, we

pears, which is of a sulphureous tint when in the water, but when out of it resembles other fish in colour. The salt-water preserves[47] of Spain are filled with these last fish, but the tunnies do not consort with them.[48]

CHAP. 20.—FISHES WHICH ARE NEVER FOUND IN THE EUXINE; THOSE WHICH ENTER IT AND RETURN.

The Euxine, however, is never entered by any animal[49] that is noxious to fish, with the exception of the sea-calf and the small dolphin. On entering, the tunnies range along[50] the shores to the right, and on departing, keep to those on the left; this is supposed to arise from the fact that they have better sight with the right eye, their powers of vision with either being naturally very limited. In the channel of the Thracian Bosporus, by which the Propontis is connected with the Euxine, at the narrowest part of the Straits which separate

find that it was a very common fish at Rome, of small size, and was in little repute. It was wrapped in paper when exposed for sale, and bad poets were threatened with the mackerel, as they are at the present day with the grocer or butterman; or, as in the time of the Spectator, with the trunk-maker. Thus Persius says, Sat. i. l. 43. "and to leave writings worthy to be preserved in cedar, and verses that dread neither mackerel nor frankincense." Aristotle, Hist. Anim. B. ix. c. 2, enumerates this fish among those that are gregarious, and places it in company with the tunny and the pelamis, but states that it is inferior in strength, B. viii. c. 2. Cuvier says, that the mackerel still has names in different parts that are derived from the word "scomber," they being called "sgombri" at Constantinople, scombri at Venice, and scurmu, scrumiu, and scumbirro in Sicily.

[47] Cetarias. These "cetariæ," or "cetaria," Papias says, were pieces of standing salt water, in the vicinity of the sea-shore, in which tunnies and other large fish were kept, and adjoining to which were the salting-houses. In the middle ages these preserves were called "tunnariæ," or "tunneries."

[48] As in the Euxine. Tunnies were caught on the Spanish coasts, as we learn from Athenæus, who, as quoted above, mentions the fisheries off Gades, for the orcynus, or large tunny. See N. 37, p. 385.

[49] Aristotle, Hist. Anim. B. viii. c. 16, from whom Pliny has here borrowed, makes a somewhat dissimilar statement. He says that "no noxious animal enters the Euxine, except the *phocena* [*or porpoise*], and the dolphin and little dolphin." Hardouin remarks, however, that Pliny is right in his statement that seals are to be found in the Euxine, and that Rondelet, B. xvi. c. 9, for that reason has suggested that the reading ought to be altered in Aristotle, and not in Pliny.

[50] Aristotle, B. viii. c. 6. Plutarch on the Instinct of Animals, and Ælian, Hist. Anim. B. ix. c. 42, say the same.

Europe from Asia, there is, near Chalcedon, on the Asiatic side, a rock of remarkable whiteness, the whole of which can be seen from the bottom of the sea at the surface. Alarmed at the sudden appearance of this rock, the tunnies always hasten in great numbers, and with headlong impetuosity, towards the promontory of Byzantium, which stands exactly opposite to it, and from this circumstance has received the name of the Golden Horn.[51] Hence it is, that all the fishing is at Byzantium, to the great loss of Chalcedon,[52] although it is only separated from it by a channel a mile in width. They wait, however, for the blowing of the north wind to leave the Euxine with a favourable tide, and are never taken until they have entered the harbour of Byzantium. These fish do not move about in winter;[53] in whatever place they may happen to be surprised by it, there they pass the winter, till the time of the equinox.

Manifesting a wonderful degree of delight, they will often accompany a vessel in full sail, and may be seen from the poop following it for hours, and a distance of several miles. If a fish-spear even is thrown at them ever so many times, they are not in the slightest degree alarmed at it. Some writers call the tunnies which follow ships in this manner, by the name of "pompili."[54]

Many fishes pass the summer in the Propontis, and do not enter the Euxine; such, for instance, as the sole,[55] while on

[51] Called "chrysoceras," in B. iv. c. 18, that being the Greek name for "golden horn." He means, that in consequence of the lucrative nature of this fishery, it thence obtained the name of the "golden" horn. Dalechamps is of opinion that some person has here substituted the Latin "Aurei cornus," for the Greek name Chrysoceras.

[52] Hence, according to Strabo, Chalcedon obtained the name of the "City of the Blind," the people having neglected to choose the opposite shore for the site of their city. Still, however, a kind of pelamis, or young tunny, from this place, had the name of "Chalcedonia," and is spoken of as a most exquisite dainty by Aulus Gellius, B. vii. c. 16.

[53] Aristotle, Hist. Anim. B. viii. c. 16; Ælian, Hist. Anim. B. ix.; and Plutarch, in his Treatise on the Instincts of Animals, state to a similar effect.

[54] Cuvier remarks that the "pompilos" of the ancients, which accompanied ships and left them on nearing the land, was the pilot-fish of the moderns, the Gasterosteus ductor of Linnæus. He thinks, however, that the name may have also been given to other fish as well, of similar habits.

[55] Pleuronectes solea of Linnæus.

the other hand, the turbot[56] enters it. The sepia[57] is not found in this sea, although the loligo[58] is. Among the rock-fish, the sea-thrush[59] and the sea-blackbird are wanting, as also purples, though oysters abound here. All these, however, pass the winter in the Ægean Sea; and of those which enter the Euxine, the only ones that do not[60] return are the trichiæ.[61]—It will be as well to use the Greek names which most of them bear, seeing that to the same species different countries have given different appellations.—These last, however, are the only ones that enter the river Ister,[62] and passing along its subterraneous passages, make their way from it to the Adriatic;[63] and this is

[56] Pleuronectes maximus of Linnæus.

[57] The cuttle-fish. The Sepia officinalis of Linnæus.

[58] The ink-fish. The Sepia loligo of Linnæus.

[59] Cuvier suggests that the turdus, or sea-thrush, and the merula, or sea-blackbird, were both fishes of the labrus tribe, usually known as "breams." Hippolytus Salvianus, in his book on the Water Animals, states, that in his day—both these fish were extremely well known, and that they still retained the names of tordo and merlo. Rondelet, B. vi., says, that the fish anciently called turdus, was in his time known by the name of "vielle," among the French. The dictionaries give "merling, or whiting," as the synonyme of "merula."

[60] Aristotle, Hist. Anim. B. viii. c. 16, says, that on going into the Euxine, the trichiæ are either taken or else devoured by the other fishes, for that they are never seen to return.

[61] The trichias, according to Cuvier, is a fish belonging to the family of herrings. A scholiast on Aristophanes attributes the origin of the name to the fine fish bones like hairs (θρίξ), with which the flesh is filled, which is a characteristic peculiar to the herring kind. Aristotle, Hist. Anim. B. vi. c. 15, represents the membras, the trichis, and the trichias, as different ages of the same fish. The trichis was little, and very common. In Aristophanes, Knights, l. 662, we find an obol mentioned as the price of a hundred. From the Acharnæ of the same author, we learn that it was salted as provision for the fleets. Cuvier thinks that everything combines to point out the sardine, the Clupea sprattus of Linnæus, as the trichis, or else a similar kind of fish, the melette of the African coast, the Clupea meletta of the naturalists. In this latter case the trichias, he thinks, may have been the sardine, or, perhaps, the Clupea ficta of Lacèpede, which is called the "sardine" in some places, and at Lake Garda, in Lombardy, more especially.

[62] The Danube. Cuvier says, that this passage probably bears reference to the clupea ficta or finte, which, as well as the shad, is in the habit of passing up streams. As for the story of the fish finding their way to the Adriatic, it is utterly without foundation. Cuvier adds, that the main difference between the finte and the clupea alosa, or shad, is, that the former has very fine teeth, the latter none at all.

[63] Pliny has already remarked, B. iii. c. 18, in reference to the supposed

the reason why they are to be seen descending into the Euxine Sea, but never in the act of returning from it. The time for taking tunnies is, from the rising of the Vergiliæ[64] to the setting of Arcturus:[65] throughout the rest of the winter season, they lie concealed at the bottom of deep creeks, unless they are induced to come out by the warmth of the weather or the full moon. These fish fatten[66] to such an extraordinary degree as to burst. The longest period of their life[67] is two years.

CHAP. 21.—WHY FISHES LEAP ABOVE THE SURFACE OF THE WATER.

There is a little animal,[68] in appearance like a scorpion, and of the size of a spider.[69] This creature, by means of its sting, attaches itself below the fin to the tunny and the fish known as the sword-fish[70] and which often exceeds the dolphin in magnitude, and causes it such excruciating pain, that it will often leap on board of a ship even. Fish will also do the same at other times, when in dread of the violence of other fish, and mullets more especially, which are of such extraordinary swiftness, that they will sometimes leap over a ship, if lying crosswise.

descent of the Argonauts from the Ister into the Adriatic, that such a passage by water was totally impossible; hence, as Hardouin says, he is obliged here to have recourse to subterraneous passages.

[64] The Pleiades. See B. ii. c. 47. The rising of the Pleiades was considered the beginning of summer, being the forty-eighth day after the vernal equinox. See also B. xviii. c. 59.

[65] The evening setting, namely. This took place on the fourth day before the nónes of November. See B. xviii. c. 74.

[66] Aristotle, Hist. Anim. B. vi. c. 16.

[67] Aristotle, Hist. Anim. B. vi. c. 16. Hardouin remarks, that the tunny which Pliny mentions in c. 17, as weighing so many hundreds of pounds, must certainly have been older than this.

[68] This is, as Cuvier has remarked, a crustaceous insect of the parasitical class Lernæa, which are monoculous [and form the modern class of the Epizoa]. Gmelin, he says, has called it "Pennatula filosa," though, in fact, it is not a pennatula [or polyp] at all. As Dalechamps observes, its appearance is very different from that of a scorpion. Penetrating the flesh of the tunny or sword-fish, it almost drives the creature to a state of madness.

[69] Aristotle, Hist. Anim. B. viii. c. 19. Appian also, in his Halieutics, B ii., makes mention of this animal. Pintianus remarks, that Athenæus, on reading this passage of Aristotle, read it not as "arachnes," but "drachmes;" not the size of a spider, but the weight of a "drachma," or Roman denarius.

[70] Or the emperor fish, Cuvier says, the Xiphias gladius of Linnæus.

CHAP. 22. (16.)—THAT AUGURIES ARE DERIVED FROM FISHES.

Auguries are also derived from this department of Nature, and fishes afford presages of coming events. While Augustus[71] was walking on the sea-shore, during the time of the Sicilian war, a fish leapt out of the sea, and fell at his feet. The diviners, who were consulted, stated that this was a proof that those would fall beneath the feet of Cæsar who at that moment were in possession of the seas—it was just at this time that Sextus Pompeius had adopted[72] Neptune as his father, so elated was he with his successes by sea.

CHAP. 23.—WHAT KINDS OF FISHES HAVE NO MALES.

The females of fishes are larger[73] in size than the males, and in some kinds there are no males[74] at all, as in the erythini[75] and the channi;[76] for all of these that are taken are found to

[71] In confirmation of this, Suetonius says, "The day before Augustus fought the sea-battle off Sicily, while he was walking on the sea-shore, a fish leapt out of the sea and fell at his feet."

[72] Appian tells us, B. v., that Sextus Pompeius, on gaining some successes against Augustus at sea, caused himself to be called the "Son of Neptune," as having been adopted by that divinity. There is also a coin of Pompey extant, which attests that he adopted the surname of "Neptunius."

[73] Aristotle, Hist. Anim. B. v. c. 5. Cuvier remarks, that this is true, and more especially during the spawning season.

[74] Aristotle says the same, but with the expression of some doubt as to the truth of the assertion. B. vi. c. 13.

[75] The erythinus is supposed to be the roach, or rochet, of the present day, and the channe, the ruff or perch. Ovid, in his Halieuticon, l. 107, alludes to the same notion that is here mentioned: "And the channe, that reproduces itself, deprived of two-fold parents." Cuvier remarks, that, wonderful as these assertions may be, they are not devoid, to all appearance, of a certain foundation; for that Cavolini has observed in the Perca cabrilla and Perca scriba of Linnæus, a species of hermaphroditism; the ovary having always in the interior a lobe, which, from its conformation, would appear to be for the milt; and that he is strongly of opinion that in this species, and some others of the same genus, all the fish produce eggs, and fecundate them themselves.

[76] Cuvier says, that the channe is the Perca cabrilla of Linnæus, one of the serrans or trumpet-fish of the coasts of Provence. According to Forskal, *Fauna Arabica*, and Sonnini, it still has the name among the Turks and modern Greeks, of "chani," or "channo," and it was in these that Cavolini observed the singular organization previously mentioned. According to Athenæus, B. vii., Aristotle has described this fish as of a red

be full of eggs. Nearly all kinds of fish that are covered with scales are gregarious. They are most easily taken before sunrise;[77] for then more particularly their powers of seeing are defective. They sleep during the night; and when the weather is clear, are able to see just as well then as during the day. It is said, also, that it greatly tends to promote their capture to drag the bottom of the water, and that by so doing more are taken at the second haul[78] than at the first. They are especially fond of the taste of oil, and find nutriment in gentle showers of rain. Indeed, the very reeds,[79] even, although they are produced in swamps, will not grow to maturity without the aid of rain: in addition to this, we find that wherever fishes remain constantly in the same water, if it is not renewed they will die.

CHAP. 24.—FISHES WHICH HAVE A STONE IN THE HEAD; THOSE WHICH KEEP THEMSELVES CONCEALED DURING WINTER; AND THOSE WHICH ARE NOT TAKEN IN WINTER, EXCEPT UPON STATED DAYS.

All fish have a presentiment of a rigorous winter, but more especially those which are supposed to have a stone[80] in the head, the lupus,[81] for instance, the chromis,[82] the sciæ-

colour, variegated with black rays, which answers very well to the Perca scriba of Linnæus, approaching most nearly to the Perca cabrilla.

77 Aristotle, Hist. Anim. B. viii. c. 75.

78 Aristotle, Hist. Anim. B. viii. c. 7.

79 Aristotle makes the same remark, Hist. Anim. B. viii. c. 25.

80 Cuvier observes, that all fishes are found to have in the membranous labyrinth of the ear, bodies like stone, enclosed in a certain kind of gelatinous liquor. These bodies, however, he says, are not equally large in all kinds of fish. He says that it is found largest in the sciæna.

81 The Perca labrax of Linnæus. Called "loup," or "wolf," on the Mediterranean coasts of France, and "bar" on the shores of the ocean.

82 Aristotle, Hist. Anim. B. viii. c. 19, attributes to the chromis, Cuvier says, stones in the head, B. iv. c. 8, an acute hearing, B. iv. c. 9, the power of making a sort of grunting noise, and the habit of living gregariously, and depositing the eggs once a year, B. iv. c. 9; all which characteristics, he says, are found in the Sciæna umbra of the naturalists, the maigre of the French. In addition to this, Epicharmus, as quoted by Athenæus, B. vii., says that the chromis and the xiphias are, at the beginning of spring, the very best of fish; a quality which must be admitted to belong to the maigre, for its size and its excellent flavour. However, he says, seeing that the glaucus, which Aristotle has distinguished from the

na,[83] and the phagrus.[84] When the winter has been very severe,

chromis, has a still stronger resemblance to the maigre, and that, as Belon informs us, the ombrine, or Sciæna cirrhosa, is still sometimes called at Marseilles the "chro," or the "chrau," and that, as Gyllius says, on the coast of Genoa it has the name of "chro," it would not be improbable that this is really the chromis of the Greeks, as Belon supposes.

[83] From σκιὰ, the Greek for "shadow;" which name, as Cuvier says, has been translated by the moderns by the word "ombre," or "umbra." But this name has been given at the present day to so many fish of various kinds, from the "ombra" of the Italians and the "maigre" of the French, the Sciæna umbra of the naturalists, the ombrine or Sciæna cirrhosa of Linnæus, to the ombre of Auvergne, the Salmo thymallus of Linnæus, and the ombre chevalier, the Salmo umbra of Linnæus, that this synonyme does not aid us in discovering its identity. Aristotle says nothing relative to his sciæna, Hist. Anim. B. viii. c. 19, except that it has stones in the head, a thing that is common to this with many other fish. Pliny, in copying this passage, preserves the Greek name; but Ovid, Columella, and Ausonius give it the name of "umbra:" the one, however, described by the first two is a sea-fish, while that of Ausonius is a fresh-water fish. Varro, who cites the name of umbra among those given to fish, adds that the species which bears it owes its name to its peculiar colour; and as Ovid calls it "liveus," or "livid," it may be presumed to have been of a dark colour. It is very possible, then, that it may have been the corvus marinus, or sea-crow, the Sciæna nigra of Linnæus

[84] Or pagrus. This passage is from Aristotle, Hist. Nat. B. viii. c. 19. Cuvier says that there are several names of fish, known in the Mediteranean at the present day, as being from the φάγρος of Aristotle, such as the pagri or pageau, the fragolino, &c. names of a fish of a red silvery hue, the Sparus erythrinus of Linnæus, his Sparus pagrus being another species. The modern Greeks also call it φάγρος, the best proof of its identity with the phagros of Aristotle, or pager or phagrus of Pliny. This phagrus, Cuvier says, was not improbably the same as the modern pagre, as their characteristics quite agree, so far as those of the ancient phagrus are described. It is of red colour, and we find Ovid (Halieut. l. 108,) speaking of the "rutilus pagur," and it was, according to Aristotle, B. viii. c. 13, caught equally out at sea and near the shore, and had stones in the head, B. viii. c. 19, or, in other words, stony bodies of large size in the labyrinthine cavities of the ear. Oppian, Halieut. B. iii. l. 185, says that the channe forms a delicate morsel for the pagrus, which shows that it was of considerable size; and several authors quoted by Athenæus, B. vii., give it the epithet of "great." Hicesius says, in the same place, that it resembles the erythrus, the chromis, the anthias, and other fish of very different character among themselves; but it is only in relation to the flesh that he makes these comparisons, so that we are unable to come to any conclusion as to the form. But we find Numenius, also quoted by Athenæus, speaking of the φάγρον λοφίην, the "crested phagrus," possibly in allusion to the height of the neck. The properties of its flesh are, if possible, still less characteristic. Hecesius says that it is of sweet flavour and nourishing, but rather astringent. Galen, however, says that it is hard, and difficult of digestion, when old.

many fish are taken in a state of blindness.[85] Hence it is, that during these months they lie concealed in holes, in the same manner as land animals, as we have already[86] mentioned; and more especially the hippurus,[87] and the coracinus,[88] which

Archestratus looks upon its head as a delicacy, but thinks so little of the other parts, that they are not, in his opinion, worth carrying away. He was, however, well known to be much too refined in his notions of epicurism.

[85] Hardouin says that Aristotle, B. viii. c. 20, from whom this account is taken, does not say this of all kinds of fish, but only of those which have large heads.

[86] In B. viii. c. 54 and 55, where he is speaking of bears and other animals.

[87] Cuvier states that Pliny takes this name from Aristotle, and that Athenæus, B. vii., says that it is synonymous with the Greek name, *κορύφαινη*. He also informs us, that modern naturalists have applied these two names to the dorade of navigators, the lampuga of the Spaniards and Sicilians, the Coryphæna hippurus of Linnæus, but that it is not clear that it has been applied on sufficient grounds: as there is no trace whatever of either of the two ancient names on the coasts of the Mediterranean, and the ancient writers have given no sufficient characteristics of the coryphæna or hippurus. It was, we learn, of excellent flavour, and in the habit of springing out of the water, from which, Athenæus says, it received the name of "arneutes," from *ἀρνὸς*, "a lamb."

[88] Cuvier remarks, that Rondelet and others of the moderns have thought that this was synonymous with the crow-fish, the corb of the French, the Sciæna nigra of Linnæus, but that his own researches on the subject had led him to a different conclusion. Its name was derived, he says, from the Greek *κόραξ*, "a crow," on account of the blackness of its colour, as Oppian says, Halieut. B. i. l. 133; but there were white ones as well, which Athenæus, B. viii., says, were the best eating, though the black ones were the most common. Aristophanes, as quoted by Athenæus, B. viii., calls it also the fish with black gills, *μελανοπτέρυγον*. Aristotle, Hist. Anim. B. v. c. 10, says that it was a small fish, and one of those that increase rapidly in growth. It was little esteemed, and was much used, as we learn from Athenæus and the Geoponica, for salting, and making garum or fish-sauce. It was also used as a bait for the anthias or flower-fish. Strabo, B. xiii., also speaks of a river-fish of this name, as being found in the Nile; the flesh of which Athenæus mentions as being remarkably good eating, and the best among the fishes of the Nile. Martial also, B. xiii. Ep. 85, calls it "princeps Niliaci macelli," the "prince of the produce of the Nile." That fish, however, Pliny says, B. xxxii. c. 5, was peculiar to the Nile; and he states, B. v. c. 9, that in consequence of finding it in a lake of Lower Mauritania, Juba pretended that the Nile took its rise in that lake. Athenæus says, B. iii., that the dwellers on the Nile called it *πέλτη*, "the buckler;" and in B. vii., that the people of Alexandria called it *πλάταξ*, from its broad shape. Now, Cuvier remarks, it is well known that the best fish of the Nile at the present day is the bolty, the Labrus Niloticus of Linnæus, and the Chromis Nilotica of his own system; and this he takes to be the Coracinus albus. It is flat and compressed,

are never taken during the winter, except only on a few stated days, which are always the same. The same with the muræna[89] also, and the orphus,[90] the conger,[91] the perch,[92] and all

and when held on the side, would appear almost circular in shape. Its colour appears white in comparison with that of another little fish of the same genus, the Sparus chromis of Linnæus, the Chromis castanea of Cuvier, which is of a brownish colour, and is found on the coast of France, where it has never been held in high esteem, except for the purposes of salting or making bait for other fish. He concludes, then, that this last was the sea coracinus, and the "bolty" of the present day that of the Nile.

[89] Cuvier says, that it has been doubted, upon the authority of Paulus Jovius, whether by this name was signified the muræna of the present day, the Muræna helena of Linnæus, or the Petromizon marinus of Linnæus, the modern lamprey. These two fishes, he says, have in common a long smooth body, and are devoid of the symmetrical fins, and the flesh of both is of a delicate flavour. There are, however, several other characteristics mentioned, he says, from which it can be easily proved that in most of the passages of Pliny, Aristotle, and Ælian, where the muræna is mentioned, it is the Muræna helena that is meant. Ovid says, Halieut. ll. 114, 115, "the muræna burning with its spots of gold"—but the lamprey has no yellow spots whatever: and in l. 27, he speaks of it as "ferox," or "fierce," a characteristic which also belongs to the muræna, but not to the lamprey. Ælian also states, B. x. c. 40, that the muræna defends itself with its teeth, which form a double row, and Aristotle says, B. viii. c. 2, that it lives upon flesh; while Pliny says, in c. 88 of the present Book, that it bites off the tail of the conger. It was the Muræna helena only, and not the lamprey, that could have devoured the slaves whom Vedius Pollio ordered to be thrown into their preserves, as is mentioned by our author in the present Book, and by Seneca and Tertullian. Finally, a thing that he considers quite decisive on the point, Aristotle says, B. ii. c. 13, that the muræna has four gills on each side, like the eel; while the fact is that the lamprey has only seven in all. Where we find Pliny speaking of the seven spots upon the muræna found in Northern Gaul, it appears most likely, Cuvier says, that he speaks after some traveller, who had observed the seven branchial orifices on the lamprey, and had taken them for spots.

[90] This fish, Cuvier says, was of a reddish colour, had rough scales, sharp teeth, large eyes, and a tough flesh. It lived a solitary life in the sea, near rocks which were the resort of shell-fish, which formed its principal nutriment. It passed the winter in the crevices of rocks under water. Its growth was rapid, and the length of its life two years; when cut in pieces, its muscles, were still seen to palpitate. Rondelet, having gathered these characteristics, looks upon the orphus as belonging to the genus Pagrus. Cuvier says, however, that it would not be easy to prove that this is a warranted conclusion, and that it is not justified by tradition, as the name has utterly disappeared from the coasts of France and Italy; though, according to Gillius and Belon, it is found among the modern Greeks, in the shape of the "ropho." Cuvier suggests that it may have been the Anthias sacer of Bloch, the "barbier" of the French.—It is supposed by some that it is our "gilt-head."

[91] The Muræna conger of Linnæus.

[92] "Percæ." Cuvier says that it is most probable that he is here speaking

the rock-fish. It is said that, during the winter, the torpedo,[93] the psetta,[94] and the sole, conceal themselves in the earth, or rather, I should say, in excavations made by them at the bottom of the sea.

CHAP. 25. — FISHES WHICH CONCEAL THEMSELVES DURING THE SUMMER; THOSE WHICH ARE INFLUENCED BY THE STARS.

Other fishes,[96] again, are unable to bear the heat of summer, and lie concealed during the sixty days of the hottest weather of midsummer; such, for instance, as the glaucus,[96] the asellus,[97]

of the fish generally known by the ancients as the sea-perch; and that there is reason for thinking that it was similar to the Perca scriba of Linnæus, having black lines running across the body. Most naturalists are of this opinion, he says, and the serran [our trumpet-fish] which bears this resemblance, is in many parts of Italy, at the present day, called the "Pereia marina."

[93] The Raia torpedo of Linnæus.

[94] Cuvier states, that Athenæus, B. vii., says that the psetta was the same as the rhombus of the Romans, the modern turbot, the Pleuronectes maximus of Linnæus. From a passage, however, of Aristotle, Hist. Anim. B. ix. c. 37, he feels convinced that it is the Pleuronectes rhombus of Linnæus, the barbue of the French, and with us the dab or sandling. Aristotle says in that passage, that it is in the habit of concealing itself in the sand, while it moves to and fro the filaments around the mouth, and so attracts the little fish. These filaments, Cuvier says, are small radii of the anterior part of the dorsal fin, which form a sort of fringe around the mouth, whence its French name of barbue. The turbot has no such filaments.

[95] Aristotle, Hist. Anim. B. viii. c. 20. As Hardouin remarks, Aristotle appears to assign the sixty days to the glaucus only.

[96] Naturalists have generally supposed, following Rondelet, Cuvier says, that the ancient glaucus was one of the class of centronotal fishes, the Scomber amia, or the Scomber glaucus of Linnæus; but that the incorrectness of this notion is easily proved. Aristotle says, that in the glaucus the appendices to the pylorus are few in number, as in the dorado (the Sparus aurata of Linnæus), while on the other hand the centronoti have them in almost greater number than any other kind of fish. Athenæus says, B. iii., that the glaucus was a large fish, and Oppian, Hal. iii. l. 193, speaks of it as taken with mullet. Aristotle, B. ii. c. 13, says, that it dwelt in deep water; but, according to Oppian, Hal. i. 170, it sought its food among rocks and in the sand; in addition to which characteristics, we find that it was a fish highly esteemed as a delicacy, the head being the part more especially preferred. From all these circumstances, Cuvier concludes that it was more probably a maigre, the Sciæna aquila of Cuvier, than one of the centronotal fishes.

[97] Literally, the "little ass." Cuvier says, that nearly all the naturalists, following Rondelet, apply this name to the merlus, the Gadus merluccius of Linnæus, or else the genus of the gadus, or cod, in general. It

and the dorade.[98] Among the river-fish, the silurus[99] is affected by the rising of the Dog-star, and at other times it is always sent to sleep by thunder. The same is also believed to be the case with the sea-fish called cyprinus.[1] In addition to this, the whole sea is sensible[2] of the rising of this star, a thing which is more especially to be observed in the Bosporus: for there sea-weeds and fish are seen floating on the surface, all of which have been thrown up from the bottom.

CHAP. 26. (17.)—THE MULLET.

One singular propensity of the mullet[3] has afforded a subject for laughter;[4] when it is frightened, it hides its head, and fancies that the whole of its body is concealed. Their salacious propensities[5] render them so unguarded, that in Phœnicia and in the province of Gallia Narbonensis, at the time of coupling,

is true, he says, that the "onos," or "ass" of the Greeks, the "asellus" of the Romans, was also known as the γαδὸς, by the Greeks; but still this onos had very different characteristics from those of the Gadus merluccius; and among all the gadi of Linnæus, he finds the only one that presents any of them to be the Gadus tricirrhatus, or sea-weasel, which he therefore thinks to represent the ancient "asellus."

[98] Aurata, "golden-fish." Cuvier observes, that by the Greeks this was called χρύσοφρυς, "eye-brow of gold." It is the French daurade of the Mediterranean, the "Sparus aurata" of Linnæus, and is remarkable for a golden line in form of a crescent over the eyes. Ajasson remarks, that it was also called Ἰώνισκος, and suggests that it may have been originally called so from being first found in the Ionian Sea. From an epigram of Martial, B. xiii. Ep. 110, it would appear that this fish was considered a very great dainty, and that it was fattened with Lucrine oysters.

[99] This fish has been already mentioned in c. 17 of the present Book. Aristotle, Hist. Anim. B. viii. c. 20, says this of the glanis.

[1] Further mention is made of this fish in c. 74 of the present Book. Aristotle mentions it in B. viii. c. 25, but says nothing about it being a sea-fish; while Dorion, as quoted by Athenæus, B. vii., expressly mentions it among the lake and river fish. Hence Dalechamps seems inclined to censure our author for this addition; but we find Oppian, Halieut. B. i. ll. 101 and 592, speaking of the sea cyprinus; and Athenæus speaks of the cyprinus of Aristotle as being a sea-fish.

[2] Aristotle, Hist. Anim. B. viii. c. 20. This subject is also treated of by Pliny in B. ii. c. 40, and is again mentioned in B. xviii. c. 58.

[3] Cuvier remarks, that it does not appear that the characteristics of the mullet, here mentioned by Pliny, have been observed in modern times.

[4] The same story is told of the ostrich.

[5] Aristotle, Hist. Anim. B. v. c. 4, states to a similar effect.

a male, being taken from out of the preserves, is fastened to a long line, which is passed through his mouth and gills; he is then let go in the sea, after which he is drawn back again by the line, upon which the females will follow him to the very water's edge; and so, on the other hand, the male will follow the female, during the spawning season.

CHAP. 27.—THE ACIPENSER.

Among the ancients, the acipenser[6] was esteemed the most

[6] Cuvier says, that the peculiarity in the scales here mentioned is not found in any fish; but that the sturgeon genus has, in place of scales, laminæ disposed in longitudinal lines in such a way, that the one does not lap over the other, as is the case with fish in general. It was this fact, misstated probably, that gave rise to the story; and it is most likely this that has led Rondelet, and most of the modern naturalists, to look upon the acipenser as the common sturgeon, and to give that name to the sturgeon genus. Athenæus reckons it among the cartilaginous fishes, and in the family of the squali; but Pliny here speaks of it as very rare, and Martial and Cicero say the same, which cannot be so accurately said of the sturgeon. Archestratus, in Athenæus, speaks of it as small, having a sharp-pointed muzzle, and of triangular shape, and tells us that a very inferior one was valued at 1000 Attic drachmæ. The sturgeon, on the other hand, is often ten or twelve feet in length. The acipenser was not always in vogue with the Romans, but when it was, it was most highly esteemed; and according to Athenæus, B. vii., and Sammonicus Severus, as quoted by Macrobius, B. ii. c. 12, it was brought to table by servants crowned with flowers and preceded by a piper. All these circumstances lead Cuvier to be of opinion that under this name is meant a kind of small sturgeon with a sharp muzzle, greatly esteemed by the Russians, and by them known as the sterlet, the Acipenser Ruthenus of Linnæus, the Acipenser Pygmæus of Pallas. It is found in the Black Sea, and in the rivers that fall into it; and has been carried with success to Lake Ladoga, as also Lake Meler, in Sweden. This is the smallest and most delicate of the sturgeon genus, and Professor Pallas says that they are sold at St. Petersburgh at "insane prices," when more than two feet in length. It is not improbable that it was found in the rivers of Asia Minor, and thence carried to Rome occasionally. Pliny, indeed, B. xxxiii. c. 11, says that it is not a stranger to Italy; if so, it would seem to be different from the "elops," of which Ovid says, Halieut. l. 96, "and the precious elops, unknown in our waters," though he also says of the "acipenser," in l. 132, "and thou, acipenser, famed in distant waters." Still, however, Cuvier says, the use of names was not so accurate among the ancients, but what that of "acipenser" may have been given to the sturgeon in general; and this may have given rise to the present assertions of Pliny. Oppian, in Athenæus, B. vii., says, like Pliny, that the elops was the same as the acipenser, and we find no characteristics given of the elops to make us

noble fish of all; it is the only one that has the scales turned towards the head, and in a contrary direction to that in which it swims. At the present day, however, it is held in no esteem, which I am the more surprised at, it being so very rarely found. Some writers call this fish the elops.

CHAP. 28.—THE LUPUS, ASELLUS.

At a later period, they set the highest value on the lupus[7] and the asellus,[8] as we learn from Cornelius Nepos, and the poet, Laberius, the author of the Mimes. The most approved kinds of the lupus are those which have the name of "lanati," or "woolly," in consequence of the extreme whiteness and softness of the flesh. Of the asellus there are two sorts, the callarias, which is the smallest, and the bacchus,[9] which is only taken in deep water, and is hence much preferred to the former. On the other hand, among the varieties of the lupus, those are the most esteemed which are taken in rivers.

conclude that the two were not synonymous. Indeed, we find that Varro, De Re Rustica, B. ii. c. 6, and Pliny in c. 54 of the present Book, speak of the elops as being most excellent at Rhodes, while we find Archestratus in Athenæus, B. vii., speaking of the same as being the locality of the acipenser; and Columella, B. viii. c. 16, and Ælian, B. viii. c. 28, place it in the Pamphylian Sea, which is not far distant from Rhodes. Pliny, B. xxxii. c. 11, states, that the palm of fine flavour was by many accorded to the elops; while Matron Parodus, in Athenæus, calls it the "most noble of all fishes, food worthy of the gods." From the immense sums that were given for it, as we learn from Varro, quoted by Nonius Marcellus, it was called the "multum munus," or "multinummus," the "much-money fish." Ælian says, B. viii. c. 28, that the fishermen who were fortunate enough to take an elops, were in the habit of crowning themselves and their vessel with garlands, and announcing it, on entering harbour, by the sound of the trumpet. Professor Pallas, in his work on the Russian Zoography, takes the elops to be a kind of sturgeon, more spiny than the rest, which is represented by Marsigli under the name of "Huso sextus." He does not, however, give his reason for fixing on this as the elops of the ancients. It has been also suggested that the elops was the same as the sword-fish.

[7] The wolf-fish. Generally supposed to be the basse, or lubin of the French, much esteemed for their delicacy.

[8] See N. 97 above.

[9] Cuvier remarks, that we find this name in Euthydemus, as quoted by Athenæus, B. vii., used synonymously with that of "onos." We also find the names Callarias, Galerias, and Galerides; but none of the characteristics are given, by which to distinguish them.

CHAP. 29.—THE SCARUS, THE MUSTELA.

At the present day, the first place is given to the scarus,[10] the only fish that is said to ruminate, and to feed on grass and not on other fish. It is mostly found in the Carpathian Sea, and never of its own accord passes Lectum,[11] a promontory of Troas. Optatus Elipertius, the commander of the fleet under the Emperor Claudius, had this fish brought from that locality, and dispersed in various places off the coast between Ostia and the

[10] Cuvier says that this fish held, as Pliny here states, the very highest place at the Roman tables, and was especially famous: First, because it was supposed to ruminate; in allusion to which, Ovid says, Halieut. l. 118, "But, on the other hand, some fishes extend themselves on the sands covered with weeds, as the scarus, which fish alone ruminates the food it has eaten." Secondly, because, as Aristotle, B. viii. c. 2, and Ælian, B. i. c. 2, inform us, it lived solely on vegetables. Thirdly, because it had the faculty of producing a sound, as we learn from Oppian, Halieut. B. i. l. 134, and Suidas. Fourthly, for its salacious propensities, numbers being taken by means of a female attached to a string, Oppian, Halieut. B. iv. l. 78, and Ælian, B. i. c. 2. Fifthly, for its remarkable sagacity in affording assistance to another, when taken in the net; relative to which Ovid has the following curious passage, Halieut. l. 9, *et seq.* "The scarus is caught by stratagem beneath the waves, and at length dreads the bait fraught with treachery. It dares not strike the osiers with an effort of its head; but, turning away, as it loosens the twigs with frequent blows of its tail, it makes its passage, and escapes safely into the deep. Moreover, if perchance any kind scarus, swimming behind, sees it struggling within the osiers, he takes hold of its tail in his mouth, as it is thus turned away, and so it makes its escape." Oppian, Halieut. B. iv. l. 40, and Ælian, Hist. Anim. B. i. c. 4, mention the same circumstance. We find that it was highly esteemed by the Roman epicures, even in early times, it being mentioned by Ennius and Horace. It was salted with the intestines in it; and Martial, B. xiii. Ep. 84, seems to speak of it as not being good to eat without them. It was a high-coloured fish, so much so, that Marcellus Sidetes called it "floridum," while by Oppian it is called ποικίλον, or "variegated." Rondelet thinks that it was one of spari or the labri, while Belon describes as such, a fish now unknown to zoologists, the tail of which, he says, has projecting spines. Aldrovandus calls it by the name of Scarus Cretensis, a species of the genus which at present goes by the name of Scarus, and which is distinguished by osseous jaw-bones, resembling in shape the beak of a parrot. Cuvier says, that on finding from Belon that the name σκάρος was still in use in the Ægean Sea, he ordered the various kinds of it to be brought to Paris; upon which he found that they exactly resembled the Scarus Cretensis of Aldrovandus, and he consequently has no doubt that it is essentially the same fish as the scarus of the Greeks and Romans. From the resemblance above stated, it is not uncommonly called the "parrot-fish;" while by some it has been thought to have resembled our char.

[11] See B. v. cc. 32, 41.

districts of Campania. During five years, the greatest care was taken that those which were caught should be returned to the sea; but since then they have been always found in great abundance off the shores of Italy, where formerly there were none to be taken. Thus has gluttony introduced these fish, to be a dainty within its reach, and added a new inhabitant to the seas; so that we ought to feel no surprise that foreign birds breed at Rome.

The fish that is next in estimation for the table is the mustela,[12] but that is valued only for its liver. A singular thing to tell of—the lake of Brigantia,[13] in Rhætia, lying in the midst of the Alps, produces them to rival even those of the sea.[14]

CHAP. 30.—THE VARIOUS KINDS OF MULLETS, AND THE SARGUS THAT ATTENDS THEM.

Of the remaining fish that are held in any degree of esteem, the mullet[15] is the most highly valued, as well as the most abundant of all; it is of only a moderate size, rarely exceeds two pounds in weight, and will never grow beyond that weight in preserves or fish-ponds. These fish are only to be found in the Northern Ocean,[16] exceeding two pounds in weight, and even there in none but the more westerly parts. As for the other kinds, the various species are numerous; some[17] live upon sea-weed, while others feed on the oyster, slime, and the flesh of other fish. The more distinctive mark is a forked

[12] Or weasel-fish. Cuvier is of opinion that Hardouin is right in his conjecture, that this is the Lote, or Gadus lota of Linnæus, which is still called motelle in some of the provinces of France. Its liver, he says, is one of the greatest delicacies that can be eaten.

[13] The present Boden See, or Lake of Constance.

[14] Instead of "marinis," Sillig adopts the reading "murænis," making them to rival the muræna even. The other, however, seems to be the preferable reading.

[15] Cuvier says that this is the τρίγλα of the Greeks, the triglia of modern Italy, the rouget of Provence, and the Mullus barbatus of Linnæus.

[16] The coasts of La Manche, Cuvier says, and the Gulf of Gascony produce a kind of mullet of larger size than usual, varied with stripes of a yellow colour. This, the Mullus surmuletus of Linnæus, is also to be found in the Mediterranean, but much more rarely than the smaller kind, which is red all over.

[17] Aristotle, Hist. Anim. B. viii. c. 5; Ælian, Hist. Anim. B. ii. c. 41; and Oppian, Halieut. B. iii. l. 435.

beard, that projects beneath the lower lip. The lutarius,[18] or mud-mullet, is held in the lowest esteem of all. This last is always accompanied[19] by another fish, known as the sargus, and where the mullet stirs up the mud, the other finds aliment for its own sustenance. The mullet that is found on the coast is not[20] highly esteemed, and the most esteemed of all have a strong flavour[21] of shell-fish. Fenestella is of opinion, that this fish received its name of mullet [mullus] from its resemblance to the colour of the red or mullet-coloured shoes.[22] The mullet spawns three[23] times a year: at all events, the fry makes its appearance that number of times. The masters in gastronomy inform us, that the mullet, while dying, assumes a variety of colours and a succession of shades, and that the hue of the red scales, growing paler and paler, gradually changes, more especially if it is looked at enclosed in glass.[24]

[18] Hardouin says that it is larger than the sea-mullet; and that it dwells in muddy or slimy spots in the vicinity of the sea-shore.

[19] Aristotle, Hist. Anim. B. viii. c. 5.

[20] Probably from the fact of its living in the mud. "Doctors differ" on this point. Aristotle, Hist. Anim. B. viii. c. 16, says that shore-fish are superior to those caught out at sea; while Seneca, on the other hand, Nat. Quæst. B. iii. c. 18, says that rock-fish and those caught out at sea are the best.

[21] He would almost seem to imply by this that they feed upon shell-fish: but Hardouin has a note to the effect, that Pliny does not mean that they live on shell-fish, as it would be impossible for them to break the shell to devour the fish within, but only that they have the same flavour as shell-fish. But query as to this explanation.

[22] On the other hand, Isidorus says that the mullet-coloured shoes were so called from the colour of the fish, which, indeed, is most probable. These shoes were made of a kind of red Parthian leather, probably not unlike our morocco leather. Festus seems to say that they were worn in general by all the patricians; but the passage of Varro which he quotes, only shows that they were worn by the curule magistrates, the consul, prætor, and curule ædile.

[23] Hence their Greek name, τρίγλα, according to Oppian, Halieut. B. i. l. 590.

[24] Seneca has a passage on this subject, Quæst. Nat. B. iii. c. 18, which strongly bespeaks the barbarous tastes of the Romans. He says: "A mullet even, if just caught, is thought little of, unless it is allowed to die in the hand of your guest. They are carried about enclosed in globes of glass, and their colour is watched as they die, which is changed by the struggles of death into various shades and hues." And again: "There is nothing, you say, more beautiful than the colours of the dying mullet; as it struggles and breathes forth its life, it is first purple, and then a paleness gradually comes over it; and then, placed as it is between life and death, an uncertain hue comes over it."

M. Apicius, a man who displayed a remarkable degree of ingenuity in everything relating to luxury, was of opinion, that it was a most excellent plan to let the mullet die in the pickle known as the "garum of the allies"[25]—for we find that even this has found a surname—and he proposed a prize for any one who should invent a new sauce,[26] made from the liver of this fish. I find it much easier to relate this fact, than to state who it was that gained the prize.

CHAP. 31.—ENORMOUS PRICES OF SOME FISH.

Asinius Celer,[27] a man of consular rank, and remarkable for his prodigal expenditure on this fish, bought one at Rome, during the reign of Caius,[28] at the price of eight thousand sesterces.[29] A reflection upon such a fact as this will at once lead us to turn our thoughts to those who, making loud complaints against luxury, have lamented that a single cook cost more money to buy than a horse; while at the present day a cook is only to be obtained for the same sum that a triumph would cost, and a fish is only to be purchased at what was formerly the price for a cook! indeed, there is hardly any living being held in higher esteem than the man who understands how, in the most scientific fashion, to get rid of his master's property.

(18.) Licinius Mucianus relates, that in the Red Sea there was caught a mullet eighty[30] pounds in weight. What a price

[25] This anchovy, pickle, or fish-sauce, will be found more fully spoken of in B. xxxi. c. 44.

[26] Alecem. See B. xxxi. c. 44. Seneca speaks of this cruel custom of pickling fish alive, Quæst. Nat. B. iii. c. 17. "Other fish, again, they kill in sauces, and pickle them alive. There are some persons who look upon it as quite incredible that a fish should be able to live under-ground. How much more so would it appear to them, if they were to hear of a fish swimming in sauce, and that the chief dish of the banquet was killed at the banquet, feeding the eye before it does the gullet?"

[27] He may have been the son of C. Asinius Gallus, who was consul B.C. 8; but he does not appear to have ever been consul himself.

[28] The reign of the Emperor Caligula.

[29] Juvenal, Sat. iv. l. 15, speaks of a mullet being bought for 6000 sesterces, a thousand for every pound, and Suetonius tells us that in the reign of Tiberius three mullets were sold for 30,000 sesterces. It is in allusion to this kind of extravagance that Juvenal says, in the same Satire, that it is not unlikely that the fisherman could be bought as a slave for a smaller sum than the fish itself. At the above rate, each of these mullets sold for about £70 of our money.

[30] Cuvier says that although the mullet of the Indian Seas is in general

would have been paid for it by our epicures, if it had only been found off the shores in the vicinity of our city!

CHAP. 32.—THAT THE SAME KINDS ARE NOT EVERYWHERE EQUALLY ESTEEMED.

There is this also in the nature of fish, that some are more highly esteemed in one place, and some in another; such, for instance, as the coracinus[31] in Egypt, the zeus,[32] also called the faber,[33] at Gades, the salpa,[34] in the vicinity of Ebusus,[35] which is considered elsewhere an unclean fish, and can nowhere[36] be thoroughly cooked, wherever found, without being first beaten with a stick: in Aquitania, again, the river salmon[37] is preferred to all the fish that swim in the sea.

larger than ours, it is never found at all approaching the weight here mentioned.

[31] The bolty of the modern Egyptians, as previously mentioned.

[32] Or Jove-fish. Cuvier says that Gillius has applied the name of "faber" to the dory, or fish of Saint Peter, and has stated that the Dalmatians, who call it the "forga," pretend that they can find in its bones all the instruments of a forge. After him, other modern naturalists have called the same fish Zeus faber; but nothing, Cuvier says, goes to prove that the dory is the fish so called by the ancients. The epithet even of "rare," given to it by Ovid, Halieut. l. 112, is far from applicable to the dory, which is common enough in the Mediterranean. If, indeed, the χαλκεύς of the Greeks were the same as the "faber," as, indeed, we have reason to suppose, it would be something in favour of the dory, as Athenæus, B. vii., says that the χαλκεύς is of a round shape: but then, on the other hand, Oppian, Halieut. B. v. l. 135, ranks it among the rock-fish which feed near rocks with herbage on them; while the dory is found only in the deep sea.

[33] Or "blacksmith."

[34] Cuvier says that this fish has still the same name in Italy; that it is called the "saupe" in Provence, and the "vergadelle" in Languedoc, being the Sparus salpa of Linnæus; and that it still answers to all the ancient characteristics of the salpa, eating grass and filling its stomach, and having numerous red lines upon the body. It is common, and bad eating, but is no better at Ivica, the ancient Ebusus, than anywhere else. M. De la Roche, when describing the fishes of that island, says expressly that the flesh of the saupe is but very little esteemed there. Ovid, Halieut. l. 122, speaks of it as "deservedly held in little esteem."

[35] See B. iii c. 11.

[36] Neither at Ebusus nor anywhere else.

[37] Hardouin remarks, that Pliny and Ausonius are the only Latin writers that mention this fish; while not one among the Greeks speaks of it. It was probably a native of regions too far to the north for them to know much about it. In this country it holds the same rank that the scarus and the mullet seem to have held at the Roman tables.

CHAP. 33.—GILLS AND SCALES.

Some fishes have numerous gills, others again single[38] ones, others double; it is by means of these that they discharge the water that has entered the mouth. A sign of old age[39] is the hardness of the scales, which are not alike in all. There are two lakes[40] of Italy at the foot of the Alps, called Larius and Verbanus, in which there are to be seen every year, at the rising of the Vergiliæ,[41] fish remarkable for the number of their scales, and the exceeding sharpness[42] of them, strongly resembling hob-nails[43] in appearance; these fish, however, are only to be seen during that month,[44] and no longer.

[38] He must mean *single* ones, on each side of the head. Cuvier remarks, that the present passage is from a longer one in Aristotle, Hist. Anim. B. ii. c. 13, which, however, has come down to us in such a corrupt and fragmentary state, that it is totally unintelligible, or, at all events, does not correspond with modern experience. No fish, he says, is known to us that has one or two gills only. The Lophii of the system of Linnæus have three gills on each side, and the greater number of fish four, with a half one attached to the opercule. Some cartilaginous fish, again, have five or six, and the lampreys seven.

[39] Aristotle, Hist. Anim. B. iii. c. 10.

[40] The modern Lago di Como, and Lago Maggiore. See B. iii. c. 23.

[41] See c. 20, as to the Vergiliæ.

[42] Cuvier says, that in various species of the cyprinus, and more especially the rubellio, the Cyprinus rutilus of Linnæus, the roach, the Cyprinus jeses of Linnæus, and the bream, the Cyprinus brama of Linnæus, the male has, during the spawning season, little warts adhering to the skin and scales. This appearance has been remarked in especial on a species found in the lakes of Lombardy, known there as the "pigo," and similar to the roach of other countries. It is most probable that it is to this appearance that Pliny alludes. Rondelet, in his book on Fishes, gives a representation of it, and calls it "pigus," or "cyprinus clavatus;" but he wrongly, like Pliny, takes it to be a peculiar genus of fish.

[43] "Clavorum caligarium"—"nails for the caliga." This was a strong, heavy sandal, worn by the Roman soldiers. It was worn by the centurions, but not by the superior officers; and from the use of it, the common soldiers, including the centurions, were distinguished by the name of "caligati." The Emperor Caligula received that cognomen when a boy, in consequence of wearing the "caliga," and being inured to the life of a common soldier. The hob-nails with which the "caliga" was studded are mentioned again in B. xxii. c. 46, and B. xxxiv. c. 41. Josephus tells us of the death of a Roman centurion, which was occasioned by these nails. As he was running over the marble pavement of the temple of Jerusalem, his foot slipped, and he was unable to rise, upon which he was overpowered by the Jews, and slain. After the decline of the Roman empire, the caliga was no longer worn by the soldiers, but was assumed by the monks and recluses.

[44] Dalechamps says, that in a similar manner, in the lake known by the

CHAP. 34. (19.)—FISHES WHICH HAVE A VOICE.—FISHES WITHOUT GILLS.

Arcadia produces a wonder in its fish called exocœtus,[45] from the fact that it comes ashore to sleep. In the neighbourhood of the river Clitorius,[46] this fish is said to be gifted with powers of speech, and to have no gills;[47] by some writers it is called the adonis.

CHAP. 35.—FISHES WHICH COME ON LAND. THE PROPER TIME FOR CATCHING FISH.

Those fish, also, which are known by the name of sea-mice,[48] name of Paladru, fish of most delicate flavour, called "umblæ," were to be taken in the month of December, and at no other part of the year; so, too, the alausæ, which are found in the Rhine, near Strasburg, in the month of May only, and at no other time.

[45] Ἀπὸ τοῦ ἔξω κοιτᾶν, "from its sleeping out of the water." This fish is also mentioned by Theophrastus, in his Fragment on the "Fish that live on dry land;" by Clearchus the Peripatetic, as quoted by Athenæus, B. viii.; Oppian, in his Halieutics, B. i. l. 158; and Ælian, Hist. Anim. B. ix. c. 36. The fish, however, mentioned by all these authorities, is a sea-fish, while that of Pliny, being found in Arcadia, must, of necessity, be a river fish. The proper name of the fish here mentioned by him was ποικιλίας, Hardouin says, so called from the variety of its colours. Cuvier says, that the fish here mentioned is not the Exocœtus of Linnæus, which is one of the flying fish, but is clearly of opinion that it is one of the genus Blennius, or Gobio, that is alluded to; for these small fish are often to be found left on the shore when the waters retire, and have the property of being able to remain alive for a considerable time without water.

[46] In the river Aroanius, which falls into the Clitorius. Pausanias mentions this story, but adds, that he never could hear the fish, although he often went there to listen. Mnaseas of Patræ, an author quoted by Athenæus, B. viii., also mentions these vocal fishes.

[47] Cuvier understands this to mean only, that the openings of the gills are remarkably small: for, as he says, there is no fish whatever without gills. It is very possible, however, that Pliny may have mistranslated a passage found in Athenæus, and quoted from Clearchus the Peripatetic, in which he says that some fish have a voice, and yet have no throat, βρόγχον; which may have, possibly, been mistaken by our author for βράγχια, "gills."

[48] "Marini mures." Cuvier says, that according to Oppian, Halieut. B. v. c. 174, *et seq.*, the sea-mice, small as they are, attack other fish, and offer resistance even to man himself. Their skin, he says, is very solid, and their teeth very strong. Theophrastus names them along with seals and birds, as feeding both on land and at sea. Cuvier is somewhat at a loss whether to pronounce them, with Dalechamps, to be a kind of turtle. If so, he considers that this would be the little turtle, Testudo coriacea of

as well as the polypi[49] and the murænæ,[50] are in the habit of coming ashore—besides which, there is in the rivers of India[51] one kind that does this, and then leaps back again into the water—for they are found to pass over into standing waters and streams. Most fishes have an evident instinct, which teaches them where to spawn in safety; as in such places there are no enemies found to devour their young, while at the same time the waves are much less violent. It will be still more a matter of surprise, to find that they thus have an appreciation of cause and effect, and understand the regular recurrence of periods, when we reflect how few persons there are that know that the most favourable time for taking fish is while the sun is passing through the sign of Pisces.[51*]

CHAP. 36. (20.)—CLASSIFICATION OF FISHES, ACCORDING TO THE SHAPE OF THE BODY.

Some sea-fish are flat, such, for instance, as the rhombus,[52] the sole,[53] and the sea-sparrow;[54] which last only differs from

Linnæus, which is by no means uncommon in the Mediterranean. He suggests, however, that there are equal grounds for taking it to be the Flasco psaro, or Tetrodon lineatus of Linnæus.

[49] The Sepia octopodia of Linnæus.

[50] The Muræna helena of Linnæus. This animal, Cuvier says, like the eel, is able to live out of water, in consequence of the minute size of the branchial orifices, as Theophrastus very accurately explains. It is a common opinion that they come out of the water in search of others of their kind; but Spallanzani was informed by the fishermen of Comacchio, that this hardly ever is the case, and that they will only leave the water when compelled. The polypus also crawls very briskly on the shore when it has been thrown up by the tide, and moves with considerable swiftness.

[51] This is also stated by the author of the treatise, De Mirab. Auscult. c. 72; and Theophrastus, in his work on the "Fishes that can live on land," says, that these Indian fishes resemble the mullet. Cuvier says, that these fish are those known as the various species of the genus Ophicephalus of Bloch, which bear a strong resemblance to the mullet in the head and body. Mr. Hamilton Buchanan, in his "History of the Fishes of Bengal," says, that these fish crawl on the grass to so great a distance from their rivers, that the people absolutely believe that they must have fallen from heaven.

[51*] Or the "Fishes." As if, indeed, Hardouin says, the resemblance of name given to the constellation could have any effect upon the fish!

[52] The turbot, Pleuronectes maximus of Linnæus.

[53] Pleuronectes solea of Linnæus.

[54] "Passer." Probably our "plaice"—the Pleuronectes platessa of Linnæus.

the rhombus in the lateral position of the body. The rhombus lies with the right side upwards,[55] while in the sea-sparrow the left side is uppermost. Some sea-fish, again, are long, as the muræna and the conger.

CHAP. 37.—THE FINS OF FISH, AND THEIR MODE OF SWIMMING.

Hence it is that there is a difference,[56] also, in the fins of fish, which have been given them to serve in place of feet, none having more than four,[57] some two[58] only, and others none.[59] It is in Lake Fucinus[60] only that there is a fish found that has eight fins[61] for swimming. Those fishes which are long and slimy, have only two at most, such, for instance, as eels and congers: others, again, have none, such as the muræna, which is also without gills.[62] All these fish[63] make their way in the sea by an undulatory motion of the body, just as serpents do on land; on dry land, also, they are able to crawl along, and hence those of this nature are more long-lived than the others. Some of the flat-fish, also, have no fins, the pastinacæ,[64] for instance—for these swim broad-wise—those, also, which are known as the "soft" fish, such as the polypi, for their feet[65] serve them in stead of fins.

[55] The pleuronectes in general, Cuvier says, have the two eyes situate on the same side of the body. The turbot has them on the left side, and lies on the sand on the right side, while the plaice or the flounder has the eyes on the right, and lies on the left side—the reverse of what Pliny says.

[56] Aristotle, Hist. Anim. B. i. c. 6.

[57] By this Pliny means, Cuvier says, only the symmetrical fins, or pairs of fins, the pectoral namely, which are in place of arms, and the ventral, which are instead of feet; of which, in fact, no fish has more than two pairs. Pliny does not include in this statement the dorsal, anal, and pectoral fins.

[58] Eels and congers, for instance, which have but one pair.

[59] Murænæ and lampreys. [60] See B. iii. c. 17.

[61] Cuvier thinks that there can be no question that he is speaking here of some mollusc or crustaceous animal.

[62] Murænæ, like eels, have gills, but the orifice, Cuvier says, is much smaller than in the eel, and the opercula, under the skin, are so small as to be hardly perceptible; indeed, so much so, that modern naturalists, Lacepède, for instance, have denied the fact of their existence.

[63] Aristotle, De Part. Anim. B. iv. c. 13, and Hist. Anim. B. i. c. 6.

[64] Or sting-ray. On the contrary, Cuvier says, the pastinaca, more than any other ray, has large pectoral fins, horizontally placed; but they adhere so closely to the body that they do not appear to be fins, unless closely examined.

[65] By this name, Cuvier says, he calls the tentacles or feelers, which

CHAP. 38. (21.)—EELS.

Eels live eight[66] years; they are able to survive out of water as much as six days,[67] when a north-east wind blows; but when the south wind prevails, not so many. In winter,[68] they cannot live if they are in very shallow water, nor yet if the water is troubled. Hence it is that they are taken more especially about the rising of the Vergiliæ,[69] when the rivers are mostly in a turbid state. These animals seek their food at night; they are the only fish the bodies of which, when dead, do not float[70] upon the surface.

(22.) There is a lake called Benacus,[71] in the territory of Verona, in Italy, through which the river Mincius flows.[72] At the part of it whence this river issues, once a year, and mostly in the month of October, the lake is troubled, evidently by the constellations[73] of autumn, and the eels are heaped together[74] by the waves, and rolled on by them in such astonishing multitudes, that single masses of them, containing more than a thousand in number, are often taken in the chambers[75] which are formed in the bed of the river for that purpose.

CHAP. 39. (23.)—THE MURÆNA.

The muræna brings forth every month, while all the other

adhere to the head of the polypus, and which it uses equally for the purpose of swimming or crawling.

[66] Spallanzani, in his "Nat. Hist. of the Eel in the Lagunes of Comacchio," says, that immediately after their birth they retreat to the Lagunes, and at the end of five years re-enter the river Po.

[67] Eighty or a hundred hours at most, Spallanzani says.

[68] Cold, or a foul state of the water, Cuvier says, is very destructive to the eel.

[69] Or Pleiades. See c. 20.

[70] Aristotle, Hist. Anim. B. viii. c. 75, says the same, and likewise that they feed *mostly* at night. The reason for their not floating when dead, he says, is their peculiar conformation; the belly being so remarkably small that the water cannot find an entrance; added to which they have no fat upon them.

[71] See B. iii. c. 23.

[72] See B. iii. c. 20.

[73] The setting of the Pleiades or the rising of Arcturus. See B. ii. c. 47.

[74] Spallanzani informs us that the fishermen of the Lagunes of Comacchio form with reeds small chambers, by means of which they take the eels when endeavouring to re-enter the river Po; in these such vast multitudes are collected, that they are absolutely to be seen above the surface of the water.

[75] Excipulis.

fishes spawn only at stated periods: the eggs of this fish increase with the greatest rapidity.[76] It is a vulgar[77] belief that the muræna comes on shore, and is there impregnated by intercourse with serpents. Aristotle[78] calls the male, which impregnates the female, by the name of "zmyrus;" and says that there is a difference between them, the muræna being spotted[79] and weakly, while the zmyrus is all of one colour and hardy, and has teeth which project beyond the mouth. In northern Gaul all the murænæ have on the right jaw seven spots,[80] which bear a resemblance to the constellation of the Septentriones,[81] and are of a gold colour, shining as long as the animal is alive, but disappearing as soon as it is dead. Vedius Pollio,[82] a Roman of equestrian rank, and one of the friends of the late Emperor Augustus, found a method of exercising his cruelty by means of this animal, for he caused such slaves as had been condemned by him, to be thrown into preserves filled with murænæ; not that the land

[76] Hardouin says, that though this assertion is repeated by Pliny in c. 74 of the present Book, it is a mistake; we learn, however, from Aristotle, Hist. Anim. B. v. c. 11, and Athenæus, B. vii., that the young of the muræna are remarkable for the quickness of their growth.

[77] This vulgar belief is, however, followed by Oppian, Halieut. B. i. c. 555; Athenæus, B. vii.; Ælian, Hist. Anim. B. i. c. 50, and B. ix. c. 66; and Nicander, Theriac., who, however, adds, "if indeed it is the truth." It is also alluded to by Basil, in Hexaem. Homil. vii., and Ambrose, Homil. v. c. 7.

[78] Aristotle, Hist. Anim. B. v. c. 11, only quotes this story as he had heard it, and does not vouch for its truth. Doro, as quoted by Athenæus, B. vii., makes the zmyrus and the muræna to be of totally different genera. The zmyrus, he says, is without bone, the whole of it is eatable, and it is remarkable for the tenderness of the flesh. There are two kinds, of which the best, he says, are those which are black.

[79] The common muræna, Cuvier says, is spotted with brown and yellow, but there is a larger kind, with stronger teeth and brown all over, the Muræna Christini, of Risso. This, he has no doubt, is the zmyrus of the ancients. Modern naturalists, he says, have incorrectly called Muræna zmyrus, a small kind of conger, which has yellow spots upon the neck.

[80] Cuvier has already made some remarks on this passage in one of his Notes to c. 24 of the present Book. See p. 395.

[81] The Seven Terriones, or plough oxen. The constellation of Ursa Major was thus called by the Romans.

[82] This wretched man was originally a freedman, and though he was on one occasion punished by Augustus for his cruelty, he left him a great part of his property. He died B.C. 15. He is supposed to be the same person as the one against whom Augustus wrote some Fescennine verses, mentioned by Macrobius, Sat. B. ii. c. 4.

animals would not have fully sufficed for this purpose, but because he could not see a man so aptly torn to pieces all at once by any other kind of animal. It is said that these fish are driven to madness by the taste of vinegar. Their skin is exceedingly thin; while that of the eel, on the other hand, is much thicker. Verrius informs us that formerly the children of the Roman citizens, while wearing the prætexta,[83] were flogged with eel-skins, and that, for this reason, no pecuniary penalty[84] could by law be inflicted upon them.

CHAP. 40. (24.)—VARIOUS KINDS OF FLAT FISH.

There is another kind of flat fish, which, instead of bones, has cartilage, such, for instance, as the raia,[85] the pastinaca,[86] the squatina,[87] the torpedo,[88] and those which, under their respective Greek names, are known as the ox,[89] the lamia,[90] the eagle,[91] and

[83] Until the Roman youth assumed the toga virilis, they wore the toga prætexta, or senatorial gown. The toga virilis was assumed at the Liberalia, in the month of March; and though no age appears to have been positively fixed for the ceremony, it probably took place, as a general rule, on the feast which next followed the completion of the fourteenth year; though it is not certain that the completion of the fourteenth year was not always the time observed. So long as a male wore the prætexta, he was considered "impubes," and when he had assumed the toga virilis, he was "pubes." Hence the word "investis," or "prætextatus," (here employed), was the same as impubes.

[84] Thus the "impubes" paid, as Hardouin says, "not in money, but in skin." Isidorus, in his Glossary, says, "'Anguilla' is the name given to the ordinary 'scutica,' or whip with which boys are chastised at school." The witty Rabelais says, B. ii. c. 30, "Whereupon his master gave him such a sound lashing with an eel-skin, that his own would have been worth nothing to make bag-pipe bags of."

[85] The ray.

[86] The sting-ray; the Raia pastinaca of Linnæus.

[87] The angel-fish; the Squalus squatina of Linnæus.

[88] The Raia torpedo of Linnæus.

[89] Galen, in his explanation of words used by Hippocrates, speaks of the *βοῦς θαλάσσιος*, which is also described by Oppian, Halieut. B. ii. l. 141, *et seq.* He speaks of it as growing to the length of eleven or twelve cubits, and having small, weak teeth, which are not easily seen, and compares it in appearance to the roof of a house. Cuvier thinks, that although its horns are not mentioned, a species of large horned ray is alluded to, which is known by the modern naturalists by the name of Cephalopterus, and he thinks it very likely these horns may have given it its Greek appellation. Indeed Pliny himself, in another place, B. xxxii. c. 53, speaks of it under the name of "cornuta," the "horned-fish."

[90] A species of ray, most probably.

[91] Cuvier suggests that this was the mylobates, the Raia aquila of Lin-

the frog.[92] In this number, also, the squali[93] ought to be included, although they are not flat fish. Aristotle was the first to call these fish by the one generic name of σελάχη,[94] which he has given them: we, however, have no mode of distinguishing them, unless, indeed, we choose to call them the "cartilaginous" fishes. All these fish are carnivorous,[95] and feed lying on their backs, just as dolphins do, as already[96] noticed; while the other fishes,[97] too, are oviparous, this one kind, with the exception of that known as the sea-frog, is viviparous, like the cetacea.[98]

CHAP. 41. (25.)—THE ECHENEIS, AND ITS USES IN ENCHANTMENTS.

There is a very small fish[99] that is in the habit of living among the rocks, and is known as the echeneis.[1] It is believed that when this has attached itself to the keel of a ship its pro-

næus, which probably obtained this name on account of the width of the pectoral fins, and its peculiar shape.

[92] Βάτραχος ἁλιεύς, the sea-frog, the Lophius piscatorius of Linnæus, and the baudroie of the French. Cuvier remarks, that though there is little solidity or firmness in the bones of this animal, it is not properly a cartilaginous fish.

[93] This is borrowed from Aristotle, Hist. Anim. B. v., who, however, says, καὶ πάντα τὰ γαλεώδη; from which Massarius, Turnebus, and Hippolytus Salvianus are inclined to read "galei," instead of "squali." Both terms, however, Hardouin says, are used to denote the genus which the French call "chiens de mer," "dog-fish."

[94] It is curious that Aristotle, though he was the inventor of this name, has nowhere stated in what it originated. Galen, De Alim. Fac. B. iii. c. 36, says that it is ἀπο τοῦ σέλας ἔχειν, from the fact of their shining at night.

[95] Aristotle, Hist. Anim. B. viii. c. 5, and De Part. Anim. B. iv. c. 13.

[96] In c. 7 of the present Book.

[97] Aristotle, Hist. Anim. B. vi. c. 8.

[98] Cuvier says that it is true that the sea-frog is oviparous; but it is far from being the case that all the cartilaginous fishes but it are viviparous. The rays, for instance, produce large eggs of a square shape, and enveloped with a very hard horny shell. Aristotle, Hist. Anim. B. viii. c. 5, and B. ii. c. 16, makes the same exception as to the sea-frog or frog-fish.

[99] This is also from Aristotle, Hist. Anim. B. ii. c. 17. Oppian also mentions it, Halieut. B. i. l. 223, *et seq.*, but he gives it all the characteristics of the modern lamprey.

[1] This is the Echeneis remora of Linnæus, Cuvier says. It has upon the head an organ, by means of which it can attach itself to any body. It is thus enabled to fasten to ships and larger fishes; but as for staying a ship, it has not, as Cuvier remarks, the slightest power over the very smallest boat. All the eloquence, therefore, which Pliny expends upon it, in B. xxxii. c. 1, is entirely thrown away.

gress is impeded, and that it is from this circumstance that it takes its name.[2] For this reason, also, it has a disgraceful repute, as being employed in love philtres,[3] and for the purpose of retarding judgments and legal proceedings—evil properties, which are only compensated by a single merit that it possesses—it is good for staying fluxes of the womb in pregnant women, and preserves the fœtus up to birth: it is never used, however, for food.[4] Aristotle[5] is of opinion that this fish has feet, so strong is the resemblance, by reason of the form and position of the fins.

Mucianus speaks of a murex[6] of larger size than the purple, with a head that is neither rough nor round; and the shell of which is single, and falls in folds on either side.[7] He tells us, also, that some of these creatures once attached themselves to a ship freighted with children[8] of noble birth, who were being sent by Periander for the purpose of being castrated, and that they stopped its course in full sail; and he further

[2] Ἀπὸ τοῦ ἔχειν νῆας. "From holding back ships."

[3] Used for the purpose of bringing back lost love, or preventing inconstancy.

[4] Aristotle, Hist. Anim. B. ii. c. 17.

[5] Hardouin says that it is very possible that Aristotle may have written to this effect in some one of the fifty books of his that have perished, but that such is not the case in his account given of this fish in his Hist. Anim. B. ii. c. 17, for there he expressly says, "There are some people that say this fish has feet, whereas it has none at all; but they are deceived by the fins, which bear a resemblance to feet." Cuvier says he cannot see in what way the fins of the remora, or sucking-fish, resemble feet, any more than those belonging to any other fish.

[6] Cuvier says, that the shell-fish to which Pliny here ascribes a power similar to that of the remora, is, if we may judge from his description of it, of the genus called Cypræa, and has very little doubt that its peculiar form caused its consecration to Venus, fully as much as its supposed miraculous powers. He also remarks that Hardouin, in his Note upon this passage, supposes an impossibility, in suggesting that the lips of this shell-fish can bite the sides of a ship; these lips or edges being hard and immoveable. For some curious particulars as to the peculiar form of some kinds of Cypræa, or cowry, and why they more especially attracted attention, and were held sacred to Venus, see the discussion on them, in the Defence made by Apuleius against the charge of sorcery, which was brought against him.

[7] Rondelet, B. xiii. c. 12, says that this kind of shell was formerly used for the purpose of smoothing paper.

[8] Herodotus tells us, B. iii. c. 48, that these were 300 boys of noble families of the Corcyræans, and that they were being sent from Periander of Corinth, to Alyattes, king of Sardes.

says, that the shell-fish which did this service are duly honoured in the temple of Venus,[9] at Cnidos. Trebius Niger says that this fish is a foot in length, and that it can retard the course of vessels, five fingers in thickness; besides which, it has another peculiar property—when preserved in salt, and applied, it is able to draw up gold which has fallen into a well, however deep it may happen to be.[9*]

CHAP. 42. (26.)—FISHES WHICH CHANGE THEIR COLOUR.

The mæna changes[10] its white colour, and in summer becomes swarthy. The phycis[11] also changes its colour, and

[9] Venus was fabled to have emerged from the sea in a shell.

[9*] Rabelais refers to these wonderful stories about the echeneis or remora, B. iv. c. 62: "And indeed, why should he have thought this difficult, seeing that —— an echeneis or remora, a silly, weakly fish, in spite of all the winds that blow from the thirty-two points of the compass, will in the midst of a hurricane make you, the biggest first-rate, remain stock still, as if she were becalmed, or the blustering tribe had blown their last; nay, and with the flesh of that fish, preserved with salt, you may fish gold out of the deepest well that ever was sounded with a plummet; for it will certainly draw up the precious metal."

[10] Aristotle, Hist. Anim. B. viii. c. 34; Ælian, Hist. Anim. B. xii. c. 48. Rondelet is of opinion that this mæna was the fish still called menola by the people of Liguria and Rome. It was a fish little valued, and we find it called by Martial, "inutilis mæna," B. xii. Epigr. 30. Cuvier says, that if it does not change from white to black, as Pliny states, its colours are much more lively in the spring. It also has an offensive smell at certain times, as is noticed by Aristotle, Hist. Anim. B. viii. c. 30, and to which Martial alludes in the above epigram. Ovid also mentions it as a fish of no value; held, in all probability, in the same degree of estimation as a sprat with us. It is, no doubt, the Sparus mæna of Linnæus.

[11] We learn from Aristotle, B. viii. c. 30, that the phycis was a whitish fish, which in the spring assumed a variegated colour. In an Epigram of Apollonides it is called "red;" and Speusippus, as quoted in Athenæus, B. v., says that it is similar to the perch and the channe. Ovid speaks of it as frequenting the shore, and Oppian represents it as dwelling among the sea-weed on the rocks. It also lived on shrimps, and its flesh was light and wholesome; while its most singular property was that of making its nest among the fucus or sea-weed, whence its name. All these characteristics, Cuvier says, are to be found, from what Olivi states, in the "*go*" of the Venetians, found in the Adriatic, the Gobius of Linnæus; the male of which in the spring makes a nest of the roots of the zostera in the mud, in which the female lays her eggs, which are fecundated by itself, and then protected by it against the attacks of enemies. This is probably the fish that is alluded to by Ovid, Halieut. l. 121, "The fish that imitates, beneath the waves, the pretty nests of the birds."

while at other times it is white, in spring it is parti-coloured. This last is the only fish that builds itself a nest; it makes it of sea-weed, and there deposits its eggs.

CHAP. 43.—FISHES WHICH FLY ABOVE THE WATER.—THE SEA-SWALLOW.—THE FISH THAT SHINES IN THE NIGHT.—THE HORNED FISH.—THE SEA-DRAGON.

The sea-swallow,[12] being able to fly, bears a strong resemblance to the bird of that name; the sea-kite[13] too, flies as well.

(27.) There is a fish that comes up to the surface of the sea, known, from the following circumstance, as the lantern-fish:[14] thrusting from its mouth a tongue that shines like fire, it emits a most brilliant light on calm nights. Another fish, which, from its horns, has received its name,[15] raises them nearly a

[12] This name, Cuvier observes, is still common on the coasts of the Mediterranean, to two kinds of flying fish, the Dactylopterus, or Trigla volitans of Linnæus, and the Exocœtus volitans of Linnæus. It is to the first, he thinks, that the ancients more especially gave the name of swallow, although Salvianus and Belon are of the contrary opinion. Oppian, Halieut. B. ii. ll. 457—461, ranks the sea-swallow with the scorpion, the dragon, and other fish the spines of which produce mortal wounds, and Ælian, B. ii. c. 5, states to the same effect. But the exocœtus has no spines, while the dactylopterus has terrible ones on its præopercules. Speusippus also, as quoted in Athenæus, B. vii., gives no less decisive testimony, in saying that the sea-cuckoo, the trigla, and the sea-swallow, have a strong resemblance to each other; the fact being that the dactylopterus is of the same genus as the sea-cuckoo, the Trigla cuculus of Linnæus.

[13] Ovid, Halieut. l. 96, speaks of this fish as having a black back. Cuvier therefore suggests that it may possibly be the perlon, the Trigla hirundo of Linnæus, the back of which is of a dark brown, and the great size of the pectoral fins of which may have given rise to the notion of its being able to fly. It is also very possible, he says, that it may have been the exocœtus, the back of which is of a blue colour.

[14] Lucerna. Probably, as Cuvier says, one of those numerous molluscs, or zoophytes, which give out a brilliant light, and perhaps the Pyrosoma of Péron. No period being found in the MSS. after the word "milvus"—"kite," it was long thought that this passage applied to the sea-kite; and it is owing to this circumstance that we find the ichthyologists enumerating a Trigla lucerna. The correction, however, is approved of by Cuvier, who says that he has found none of the genus triglæ to give forth a light; except, indeed, when, like other fish, it begins to be putrid.

[15] Probably the "cornuta," mentioned in the Note on the sea-ox in c. 40; see p. 411. Cuvier says that it was long supposed that the fish here alluded to might be the Malarmat of the Mediterranean, the Trigla cataphracta of Linnæus, the muzzle of which is divided into two horns; but then they are only half an inch long, instead of a foot and a half. He is of opinion,

foot and a half above the surface of the water. The sea-dragon,[16] again, if caught and thrown on the sand, works out a hole for itself with its muzzle, with the most wonderful celerity.

CHAP. 44. (28.)—FISHES WHICH HAVE NO BLOOD.—FISHES KNOWN AS SOFT FISH.

The varieties of fish which we shall now mention are those which have no blood: they are of three kinds[17]—first, those which are known as "soft;" next, those which have thin crusts; and, lastly, those which are enclosed in hard shells. The soft fish are the loligo,[18] the sæpia,[19] the polypus,[20] and others of a similar nature. These last have the head between the feet and the belly, and have, all of them, eight feet: in the sæpia and the loligo two of these feet are very long[21] and rough, and by means of these they lift the food to their mouth, and attach themselves to places in the sea, as though with an anchor; the others act as so many arms, by means of which they seize their prey.[22]

therefore, that it is the great horned ray, now known as the cephalopterus, which, being often fifteen feet and more in diameter, answers much better to the description of its size implied by Pliny from the length of its horns. It is also mentioned under the name of cornuta in B. xxxii. c. 53, in company with the saw-fish, the sword-fish, the dog-fish, and other large fishes.

[16] Cuvier is of opinion, that Rondelet is correct in his suggestion that this is the sea-spider, called the "vive" in France, the viver or weever with us, and the Trachinus draco of Linnæus, which fish is still called δράκαινα by the modern Grecks. Pliny, in c. 48 of the present Book, charges the sea-spider with doing much mischief, by means of the spines or stickles on its back. Now Ælian, B. ii. c. 50, and Oppian, Halieut. l. 458, say the same of the sea-dragon; and this is a well-known property of the modern vive, the Trachinus draco of Linnæus. Pliny speaks more especially, in B. xxxii. c. 53, of the wounds which it makes with the spines or stickles of its opercules, which the vive is also able to inflict; and in addition to this, it has the power of burrowing into the sand in a most incredibly short space of time.

[17] Cuvier remarks, that this division of the bloodless fish by Aristotle into the mollusca, testacea, and crustacea, has been followed by naturalists almost down to the present day.

[18] The Sæpia loligo of Linnæus; the calmar of the French, or ink-fish.

[19] The Sæpia officinalis of Linnæus; the seche of the French; our cuttle-fish.

[20] The Sæpia octopodia of Linnæus, or eight-footed cuttle-fish.

[21] Cuvier remarks, that this account of the arms or feelers of the sæpia and loligo is very exact.

[22] "Quibus venantur." Hardouin suggests that the proper reading

CHAP. 45. (29.)—THE SÆPIA, THE LOLIGO, THE SCALLOP.

The loligo is also able to dart above the surface of the water, and the scallop does the same, just like an arrow as it were. In the sæpia,[23] the male is parti-coloured, blacker than the female, and more courageous. If the female is struck with a fish-spear, the male comes to her aid; but the female, the instant the male is struck, takes to flight. Both of them, as soon as ever they find themselves in danger of being caught, discharge[24] a kind of ink, which with them is in place of blood,[25] and thus darkening the water, take to flight.

CHAP. 46.—THE POLYPUS.

There are numerous kinds of polypi. The land[26] polypus is larger than that of the sea; they all of them use their arms[27] as feet and hands; and in coupling they employ the tail, which is forked[28] and sharp. The polypus has a sort of passage in the back,[29] by which it lets in and discharges the water, and which

would be "quibus natant"—"by means of which they swim;" for Aristotle says, in the corresponding passage, "with the fins that surround the body they swim."

[23] Plautus has a line in his Rudens, which shows that when the sæpia was cooked for table, it was customary to take the eyes out. "Bid them knock out his eyes, just as the cooks do with the sæpia."

[24] Aristotle, Hist. Anim. B. iv. c. 2, states to a similar effect, as also Ælian, Hist. Anim. B. i. c. 34; Oppian, Halieut. B. iii. l. 156.

[25] This so-called ink, Cuvier says, is neither their blood nor their bile, but a liquid that is secreted in a bag peculiar to the animal. It is said, that it is from the juices of certain polypi of the Eastern seas, that the genuine Indian or Chinese ink is made; but M. Abel Remusat assures us that he has found nothing in the Chinese writers to confirm this conjecture.

[26] This, as Hardouin says, is the polypus which is found on the sea-shore, and which more frequently comes on dry land than the other kinds.

[27] The arms of the polypus have numerous names with the Latin authors. Ovid calls them "flagella,"—"whips;" others again, "cirri"—"curls;" "pedes"—"feet;" "crura"—"legs;" and "crines"—"hair."

[28] This, Cuvier says, is quite unintelligible; for all the polypi have an oval body, of the shape of a bag, and there is nothing in them that bears any resemblance to a tail, forked or otherwise.

[29] This channel, Cuvier says, is in form of a funnel reversed, by means of which the animal draws in and ejects the water that is requisite for its respiration, and discharges the ink and other excretions. It is in the fore-part of the body, and at the orifice of the bag, and not on the back, as Pliny says; but, as Cuvier remarks, it was very easy for a person to be deceived in this matter, as the head, being in form of a cylinder, and

it shifts from side to side, sometimes carrying it on the right, and sometimes on the left. It swims obliquely,[30] with the head on one side, which is of surprising hardness while the animal is alive, being puffed out with air.[31] In addition to this, they have cavities[32] dispersed throughout the claws, by means of which, through suction, they can adhere to objects; which they hold, with the head upwards, so tightly, that they cannot be torn away. They cannot attach themselves, however, to the bottom of the sea, and their retentive powers are weaker in the larger ones. These are the only[33] soft fish that come on dry land, and then only where the surface is rugged: a smooth surface they will not come near. They feed upon the flesh of shell-fish, the shells of which they can easily break in the embrace of their arms: hence it is that their retreat may be easily detected by the pieces of shell which lie before it. Although, in other respects, this is looked upon as a remarkably stupid kind of animal, so much so, that it will swim towards the hand of a man, to a certain extent in its own domestic matters it manifests considerable intelligence. It carries its prey to its home, and after eating all the flesh, throws out the debris, and then pursues such small fish as may chance to swim towards them. It also changes its colour[34] according to the aspect of the place where it is, and more especially when it is alarmed. The notion is entirely unfounded that it gnaws[35] its own arms; for it is from the congers that this mischance befalls it; but it is no other

fringed with the so-called feet, cannot be said to be distinguished into an upper and lower side.

[30] Aristotle, Hist. Anim. B. iv. c. 2, says that the animal is obliged to do so, on account of the situation of the eyes.

[31] But Aristotle says, *καθάπερ ἐμπεφυσημένην*, "*as though* it were puffed out with air."

[32] "Acetabulis." The acetabulum was properly a vinegar cruet, in shape resembling an inverted cone; from a supposed similarity in the appearance, it is here applied to the suckers of the polypus. The Greek name is *κοτυληδών*.

[33] Aristotle, Hist. Anim. B. ix. c. 59.

[34] Cuvier says, that the changes of colour of the skin of the polypus are continual, and succeed each other with an extreme rapidity; but that it has not been observed, any more than the chameleon, to take the colour of objects in its vicinity.

[35] This notion is mentioned by Athenæus, Pherecrates, Alcæus, Hesiod, Oppian, and Ælian.

than true that its arms shoot forth again, like the tail in the colotus[36] and the lizard.[37]

CHAP. 47.—THE NAUTILUS, OR SAILING POLYPUS.

Among the most remarkable curiosities is the animal which has the name[38] of nautilus, or, as some people call it, the pompilos. Lying with the head upwards, it rises to the surface of the water, raising itself little by little, while, by means of a certain conduit in its body, it discharges all the water, and this being got rid of like so much bilge-water as it were, it finds no difficulty in sailing along. Then, extending backwards its two front arms, it stretches out between them a membrane[39] of marvellous thinness, which acts as a sail spread out to the wind, while with the rest of its arms it paddles along below, steering itself with its tail in the middle, which acts as a rudder. Thus does it make its way along the deep, mimicking the appearance of a light Liburnian[40] bark; while, if anything chances to cause it alarm, in an instant it draws in the water, and sinks to the bottom.[41]

CHAP. 48. (30.)—THE VARIOUS KINDS OF POLYPI; THEIR SHREWDNESS.

Belonging to the genus of polypi is the animal known as the

[36] Cuvier says, that Pliny states, in B. xxix. c. 28, that the colotis, or colotes of the Greeks, is the same as their ascalabotes, the "stellio" of the Latins. This stellio is the same as the "gecko" of the moderns, and the species known in Italy and Greece is the same as the "wall gecko" of the French, or the tarente of the Provencals. From what Pliny says here about its tail, it would appear to have been a lizard; but its identity with the stellio, Cuvier says, is very doubtful. It will be mentioned more at length in B. xi. c. 31.

[37] It is very true, Cuvier says, that the tail of the gecko and lizard will grow again after it has been cut off, but without vertebræ. As to the arms of the polypus, he says, it is very possible, seeing that the horns of the snail, which belongs to the same family, will grow again.

[38] This account of the nautilus, Cuvier says, the Argonauta argo of Linnæus, wonderful as it may appear, has been often confirmed by modern observation.

[39] This, Cuvier says, is not a membrane between the two feet or tentacles, but a distinct membranous dilatation of the extremity of each of those two organs.

[40] These vessels have been already remarked upon in Note 33 to c. 5 of the present Book.

[41] Aristotle, Hist. Anim. B. vi. c. 61.

ozæna,[42] being so called from the peculiarly strong smell exhaled by the head;[43] in consequence of which, the murænæ[44] pursue it with the greatest eagerness. The polypi keep themselves concealed for two months in the year; they do not live beyond two[45] years, and always die of consumption, the females even sooner,[46] and mostly after bringing forth. I must not omit here the observations which L. Lucullus, the proconsul of Bætica, made with reference to the polypus, and which Trebius Niger, one of his suite, has published. He says that it is remarkably fond of shell-fish, and that these, the moment that they feel themselves touched by it, close their valves, and cut off the feelers of the polypus, thus making a meal at the expense of the plunderer. Shell-fish are destitute of sight, and, indeed, all other sensations but those which warn them of hunger and the approach of danger. Hence it is, that the polypus lies in ambush[47] till the fish opens its shell, immediately upon which, it places within it a small pebble, taking care, at the same time, to keep it from touching the body of the animal, lest, by making some movement, it should chance to eject it. Having made itself thus secure, it attacks its prey, and draws out the flesh, while the other tries to contract itself, but all in vain, in consequence of the separation of the shell, thus effected by the insertion of the wedge. So great is the instinctive shrewdness in animals that are otherwise quite remarkable for their lumpish stupidity.

In addition to the above, the same author states, that there is not an animal in existence, that is more dangerous for its powers of destroying a human being[48] when in the water.

[42] From ὄζω, "to emit an odour." This was a small kind of polypus.

[43] Cuvier remarks that, in this Chapter, there are many details relative to the polypus, that have not been observed by modern naturalists; but they may have been observed by the Greeks, upon whose shores and islands the animal was much more frequently to be found than in the west of Europe.

[44] Oppian, Halieut. B. ii. l. 260, describes the battles of these animals with the polypus. He also says, B. iii. c. 198, that they are attracted by the smell of the flesh of the polypus, and so are easily taken.

[45] Aristotle, Hist. Anim. B. ix. c. 59.

[46] Oppian, Halieut. B. i. l. 551, says, that they hardly live a year; and Ælian, Hist. Anim. B. vi. c. 28, states to a similar effect.

[47] Basil attributes a similar craftiness to the crab; Hexaem. Homil. vii.

[48] The fishermen at the present day, upon the coast of Normandy, say

Embracing his body, it counteracts his struggles, and draws him under with its feelers and its numerous suckers, when, as often is the case, it happens to make an attack upon a ship-wrecked mariner or a child. If, however, the animal is turned over, it loses all its power; for when it is thrown upon the back, the arms open of themselves.

The other particulars, which the same author has given, appear still more closely to border upon the marvellous. At Carteia,[49] in the preserves there, a polypus was in the habit of coming from the sea to the[50] pickling-tubs that were left open, and devouring the fish laid in salt there—for it is quite astonishing how eagerly all sea-animals follow even the very smell of salted condiments, so much so, that it is for this reason, that the fishermen take care to rub the inside of the wicker fish-kipes[51] with them.—At last, by its repeated thefts and immoderate depredations, it drew down upon itself the wrath of the keepers of the works. Palisades were placed before them, but these the polypus managed to get over by the aid of a tree,[52] and it was only caught at last by calling in the assistance of trained dogs, which surrounded it at night, as it was returning to its prey; upon which, the keepers, awakened by the noise, were struck with alarm at the novelty of the sight presented. First of all, the size of the polypus was enormous beyond all conception; and then it was covered all over

that the polypus, which they call the *chatrou*, is a most formidable enemy to swimmers and divers; for when it has embraced any of the limbs with its tentacles, it adheres with such tenacity, that it is quite impossible for a person to disengage himself, or to move any of his limbs.

[49] In Spain; see B. iii. c. 3. Ælian, Hist. Anim. B. vi. c. 13, tells a similar story about a polypus at Puteoli.

[50] "Lacus;" large tubs used in the process of pickling. This story, Cuvier observes, is only surpassed by those told by the Norwegians relative to the "kraken" of their seas, which, according to some versions of the fable, is a polypus of such vast size, that sailors have sometimes mistaken it for an island.

[51] "Nassis." The "nassa" was a contrivance for catching fish by the junction of osier or willow rods. It was probably made in the shape of a large bottle with a narrow mouth, and placed with the mouth facing the current. Aristotle, Hist. Anim. B. iv. c. 8, states, that the fishermen, when they were desirous of bringing the fish out of their holes, were in the habit of rubbing the mouth of the holes with salted flesh.

[52] Oppian, Halieut. B. i. c. 310, tells a story of a polypus, of the ozæna, species, that was in the habit of climbing trees, and plundering the fruit.

with dried brine, and exhaled a most dreadful stench. Who could have expected to find a polypus there, or could have recognized it as such under these circumstances? They really thought that they were joining battle with some monster, for at one instant, it would drive off the dogs by its horrible fumes,[53] and lash at them with the extremities of its feelers; while at another, it would strike them with its stronger arms, giving blows with so many clubs, as it were; and it was only with the greatest difficulty that it could be dispatched with the aid of a considerable number of three-pronged fish-spears. The head of this animal was shewn to Lucullus; it was in size as large as a cask of fifteen amphoræ, and had a beard,[54] to use the expressions of Trebius himself, which could hardly be encircled with both arms, full of knots, like those upon a club, and thirty feet in length; the suckers or calicules,[55] as large as an urn, resembled a basin in shape, while the teeth again were of a corresponding largeness: its remains, which were carefully preserved as a curiosity, weighed seven hundred pounds. The same author also informs us, that specimens of the sæpia and the loligo have been thrown up on the same shores of a size fully as large: in our own seas[56] the loligo is sometimes found five cubits in length, and the sæpia, two. These animals do not live beyond two years.

CHAP. 49.—THE SAILING NAUPLIUS.

Mucianus also relates that he had seen, in the Propontis, another curious resemblance to a ship in full sail.[57] There is

[53] "Afflatu terribili." This, as Hardouin says, may either mean its bad smell, or stinking water, ejected from its canal.

[54] Its arms or feelers. The amphora, as a measure of capacity, held about nine English gallons.

[55] "Caliculis;" literally, "little glasses." Its "acetabula," or suckers, are so called from their peculiar shape.

[56] Aristotle, Hist. Anim. B. iv. c. 2, says the same; but, as Hardouin observes, he must mean the Ionian sea.

[57] Cuvier says, that this is only a reproduction, under another name, and with other details, of the story of the nautilus or argonauta; but under the impression that the polyp is not the animal which owns the shell, but is only its associate. It has also been asserted in modern times, he says, that the polyp has seized this shell by force from some other animal, in order to convert it into its boat; but the opinion has not been adopted, as the shell of the nautilus has been never found in the possession of any other animal.

a shell-fish, he says, with a keel, just like that of the vessel which we know by the name of acatium,[58] with the poop curving inwards, and a prow with the beak[59] attached. In this shell-fish there lies concealed also an animal known as the nauplius, which bears a strong resemblance to the sæpia, and only adopts the shell-fish as the companion of its pastimes. There are two modes, he says, which it adopts in sailing; when the sea is calm, the voyager hangs down its arms,[60] and strikes the water with a pair of oars as it were; but if, on the other hand, the wind invites, it extends them, employing them by way of a helm, and turning the mouth of the shell to the wind. The pleasure experienced by the shell-fish is that of carrying the other, while the amusement of the nauplius consists in steering; and thus, at the same moment, is an instinctive joy felt by these two creatures, devoid as they are of all sense, unless, indeed, a natural antipathy to man—for it is a well-known fact, that to see them thus sailing along, is a bad omen, and that it is portentous of misfortune to those who witness it.

CHAP. 50.—SEA-ANIMALS, WHICH ARE ENCLOSED WITH A CRUST; THE CRAY-FISH.

The cray-fish,[61] which belongs to that class of animals which is destitute of blood, is protected by a brittle crust. This creature keeps itself concealed for five months, and the same is the case with crabs, which disappear for the same period. At the beginning of spring, however, they both[62] of them, after the

[58] Probably borrowed from the Greeks, who called it ἄκατος. It is supposed to have been a small boat, similar to the Roman "scapha;" like our "skiff" probably.

[59] The "rostrum" of the ancient ships of war.

[60] "Palmulis." This word also means the blade or broad part of an oar; in which sense it may, perhaps, be here taken.

[61] "Locusta;" literally, the "locust" of the sea. By this name is meant, Cuvier says, the "langouste" of the French (our cray-fish), which has no large forcipes, and has a thorax covered with spines; the Palinurus quadricornis of the naturalists. This is clearly the κάραβος of Aristotle, Hist. Anim. B. viii. c. 23; for we generally find it thus translated by Pliny, when he borrows anything from that philosopher. We know that the body of this animal was spiny, from the fact that Tiberius, as we learn from Suetonius, cruelly caused the face of a fisherman who had offended him, to be rubbed with a locusta.

[62] Aristotle, and Theophrastus, in his "Treatise on Animals which conceal themselves," state to a similar effect.

manner of snakes, throw off old age, and renew their coverings. While other animals swim on the water, cray-fish float with a kind of action like creeping. They move onwards, if there is nothing to alarm[63] them, in a straight line, extending on each side their horns, which are rounded at the point by a ball peculiar to them; but, on the other hand, the moment they are alarmed, they straighten these horns, and proceed with a sidelong motion. They also use[64] these horns when fighting with each other. The cray-fish is the only animal that has the flesh in a pulpy state, and not firm and solid, unless it is cooked alive in boiling water.

(31.) The cray-fish frequents rocky places, the crab[65] spots which present a soft surface. In winter they both choose such parts of the shore as are exposed to the heat of the sun, and in summer they withdraw to the shady recesses of deep inlets of the sea. All fish of this kind suffer from the cold of winter, but become fat during autumn and spring, and more particularly during the full moon; for the warmth of that luminary, as it shines in the night, renders[66] the temperature of the weather more moderate.

CHAP. 51.—THE VARIOUS KINDS OF CRABS; THE PINNOTHERES, THE SEA URCHIN, COCKLES, AND SCALLOPS.

There are various kinds of crabs,[67] known as carabi,[68] astaci,[69]

[63] Aristotle, Hist. Anim. B. viii. c. 4, states to a similar effect.

[64] Aristotle, *loc. cit.*, and Ælian, Hist. Anim. B. ix. c. 25, state to the same effect.

[65] Hardouin says, that this must be only understood of the kind of crab known as the "astacus;" that being the one mentioned by Aristotle, in the passage from which Pliny has borrowed.

[66] He mentions, in B. ii. c. 41, the effect which the rays of the moon have upon the growth of shell-fish.

[67] Aristotle, Hist. Anim. B. iv. c. 2, has a somewhat similar passage. "The kinds of crabs are numerous, and not easily to be enumerated. First, there are those known as maiæ, then the paguri, which are also called 'heracleotici;' and, after them, the river crabs. There are others, again, of a smaller size, and which, for the most part, are known by no name in particular."

[68] This is, no doubt, the cray-fish, the same animal that has been called the "locusta" in the preceding Chapter. Aristotle states, B. iv. c. 8, that the carabus has the thorax rough and spiny. It is most probable, that it is from this name that our word "crab" is derived.

[69] Cuvier says, that the astacus, which is very accurately described by

maiæ,[70] paguri,[71] heracleotici,[72] lions,[73] and others of less note. The carabus differs[74] from other crabs, in having a tail: in Phœnicia they are called hippoi,[75] or horses, being of such extraordinary swiftness, that it is impossible to overtake them. Crabs are long-lived, and have eight feet, all of which are bent obliquely. In the female[76] the first foot is

Aristotle, Hist. Anim. B. iv. c. 8, is indisputably the homard of the French (the common lobster of the English); the Cancer gammarius of Linnæus. Pliny, in another place, B. xxx. c. ii., describes it himself under the name of elephantus.

[70] Cuvier remarks, that according to Aristotle, B. iv. c. 2, the maiæ are in the number of the καρκίνοι, or crabs that have a short tail concealed beneath the body, being those of the largest kind. The same philosopher, De Part. Anim. B. iv. c. 8, adds, that these have also short feet and a hard shell. Cuvier says, that many writers have applied this name to the crabs at the present day belonging to the genus inachus, and more especially the Cancer maia of Linnæus. He is more inclined, however, to think that the maia was the common French crab, known as poupart or tourtue, the Cancer pagurus of Linnæus.

[71] Hardouin says, that these are the same that the Venetians were in the habit of calling "cancro poro," the last word being a corruption, as he thinks, of pagurus. Aristotle says, *loc. cit.*, that they were crabs of middling size.

[72] Or Heracleotic crabs. Aristotle says, De Partib. Anim. B. iv. c. 8, that these crabs had shorter feet and thinner than those of the maiæ. Cuvier suggests, that these may be the commonest kind of crab, the Cancer mænas of Linnæus, or a species very similar.

[73] "Leones." This name is not found in Aristotle's account, but it is found in Athenæus, B. iii. c. 106; and in Ælian, Hist. Anim. B. xiv. c. 9. According to Diphilus, as quoted by Athenæus, it was of larger size than the astacus. Ælian describes it as more slender in shape than the cray-fish, and partly of a bluish colour, and with very large forcipes, in which it resembles, Cuvier says, the homard of the French. It is possible, however, he adds, that it may have been only a second name given to the astacus already mentioned; as both Pliny and Ælian, who were not critical observers, are very liable to make errors in names.

[74] Aristotle, Cuvier observes, states the carcini, or crabs, have no tail, the fact being that the tail is extremely small, and is concealed, as it were, in a furrow in the under part of the body. The cray-fish, on the other hand, has a large and broad tail.

[75] Ἵπποι. The more common reading is ἱππεῖς, "horsemen." Cuvier thinks, that in all probability, these are a kind of crab with very long legs, vulgarly known as the sea-spider; the Macropodia and the Leptopodia of Linnæus.

[76] Hardouin remarks, that Aristotle says this only of the carabi, or cray-fish, and not of the crabs in general; and that, on the contrary, in B. v. c. 7, he says, that in the crab the male does not differ in conformation

double, in the male single; besides which, the animal has two claws with indented pincers. The upper part only of these fore-feet is moveable, the lower being immoveable: the right claw is the largest in them all.[77] Sometimes they assemble together in large bodies;[78] but as they are unable to cross the mouth of the Euxine, they turn back again and go round by land, and the road by which they travel is to be seen all beaten down with their foot-marks.

The smallest crab of any is that known as the pinnotheres,[79] and hence it is peculiarly exposed to danger; its shrewdness, however, is evinced by its concealing itself in the shell of the oyster; and as it grows larger, it removes to those of a larger size.

Crabs, when alarmed, go backwards as swiftly as when moving forwards. They fight with one another like rams, butting at each other with their horns. They have[80] a mode of curing themselves of the bites of serpents. It is said,[81] that

from the female, except in the opercule. There seems, in reality, to be no foundation for the statement here made by Pliny.

[77] Both in the crab and the cray-fish, Aristotle says.

[78] Ælian, Hist. Anim. B. vii. c. 24, calls this kind of crab δρομίας, the "runner," from the great distance it is known to travel. He says, that they meet together, coming in one by one, at a certain bay in the Thracian Bosporus, where those who have arrived wait for the others; and that on finding that the waves of the Euxine are sufficiently violent to sweep them away, they unite in a dense body, and then waiting till the waters have retired, make a passage across the straits.

[79] Cuvier remarks, that Hardouin is correct in considering this the same as the crab known in France as Bernard the Hermit (our hermit-crab), the Cancer Bernardus of Linnæus, a species of the genus now known as the Pagur. This animal hides its tail and lower extremities in the empty shells of whelks, or other univalves. Cuvier suggests that our author committed a slip of the pen, in using the word oyster here for shell-fish. This is the καρκίνιον, probably, of Aristotle, Hist. Anim. B. v. c. 15, and De Part. Anim. B. iv. c. 8; and it is most probable that, as Cuvier states, the real πιννοτήρης of Aristotle, Hist. Anim. B. iv. c. 4, and B. v. c. 14, was another of the crustacea, of which Pliny speaks under the same name in c. 66. This last is a small crab, that lives in the shells of bivalves, such as mussels, &c., but not when empty. See the Notes to c. 66.

[80] This circumstance is more fully treated of in B. xxxii. c. 19.

[81] Our author speaks rather more guardedly here than usual; and Hardouin seems almost inclined to believe the story. Ovid also alludes to this story in the Met. B. xv. l. 370, *et seq.* "If you take off the bending claws from the crab of the sea-shore, and bury the rest in the earth, a scorpion will come forth from the part so buried, and will threaten with its crooked tail."

while the sun is passing through the sign of Cancer, the dead bodies of the crabs, which are lying thrown up on the shore, are transformed into serpents.

To the same class[82] also belongs the sea-urchin,[83] which has spines in place of feet;[84] its mode of moving along is to roll like a ball, hence it is that these animals are often found with their prickles rubbed off. Those among them which have the longest spines of all, are known by the name of echinometræ,[85] while at the same time their body is the very smallest. They are not all of them of the same glassy colour; in the vicinity of Torone[86] they are white,[87] with very short spines. The eggs[88] of all of them are bitter, and are five in number; the mouth is situate in the middle of the body, and faces the earth.[89] It is said[90] that these creatures foreknow the approach of a storm at sea, and that they take up little stones with which they cover[91] themselves, and so provide a sort of ballast against their volubility, for they are very unwilling by rolling along to wear away their prickles. As soon as seafaring persons observe this, they at once moor their ship with several anchors.

(32.) To the same genus[92] also belong both land and water[93] snails, which thrust the body forth from their abode, and extend or contract two horns, as it were. They are without

[82] Of animals covered with a thin crust.

[83] The sea-urchin, the herisson de mer of the French, and the Echinus of Linnæus.

[84] Cuvier remarks, that it does not use the spines or prickles for this purpose, but that it moves by means of tentacules, which it projects from between its prickles.

[85] The Echinus cidaris of Linnæus; with a small body, and very long spines. The name, according to Hardouin, is from the Greek, meaning the "mother of the echini."

[86] See B. iv. c. 17.

[87] The same, Cuvier says, with the Echinus spatagus of Linnæus.

[88] Not "ova," Cuvier says, but "ovaria" rather. Each urchin has five "ovaria," arranged in the form of stars. They are supposed to be hermaphroditical, but there is considerable doubt on the subject.

[89] The mouth of the sea-urchin, armed with five teeth, is generally turned to the ground, Cuvier says.

[90] Plutarch, in his Book "on the Instincts of Animals," Oppian, Halieut. B. ii. l. 225, and Ælian, Hist. Anim. B. vii. c. 44, all mention this.

[91] This idea probably arose from the fact of their being sometimes found with stones sticking between their spines or prickles.

[92] The thin-crusted animals.

[93] Known to us as periwinkles.

eyes,[94] and have, therefore, to feel their way, by means of these horns.

(33.) Sea-scallops[95] are considered to belong to the same class, which also conceal themselves during severe frosts and great heats; the onyches,[96] too, which shine in the dark like fire, and in the mouth even while being eaten.

CHAP. 52.—VARIOUS KINDS OF SHELL-FISH.

Let us now pass on to the murex[97] and various kinds of shell-fish, which have a stronger shell, and in which Nature, in her sportive mood, has displayed a great variety—so many are the various hues of their tints, so numerous are their shapes, flat,[98] concave,[99] long,[1] crescent-shaped,[2] rounded into a globe, cut[3] through into a semi-globe, arched in the back, smooth, rough, indented, streaked, the upper part spirally wreathed, the edge projecting in a sharp point, the edge wreathed outwards,[4] or else folding inwards.[5] And then, too, there are the various dis-

[94] It is now known, thanks to the research of Swammerdam, that the black points at the extremity of the great horns of the land snail, or Helix terrestris, and at the base of them in the water snail, are eyes.

[95] "Pectines in mari;" literally, "sea-combs." The French still call them by a similar name, "peignes." They are known also in France as "coquilles de St. Jaques," or St. James's shells; probably, because worn by pilgrims who had visited the shrine of St. Jago, at Compostella. Indeed, the scallop shell was a favourite emblem with the palmers and pilgrims of the middle ages, who were in the habit of wearing it on their return in the hat.

[96] He Latinizes the Greek name, calling it "unguis"—"a nail;" and, according to Varro, they were so called from their resemblance to the human nail. Pliny mentions them again in c. 87 of this Book, and in B. xxxii. c. 53, where he states that they are also called "dactyli," or "fingers." Cuvier says, that under this name are meant the pholades, a bivalve shell-fish, which give forth a very brilliant light.

[97] Univalves, with a thick spinous shell.

[98] The flat shell-fish, for instance, according to Cuvier, of the genus patella, or lepas.

[99] Other fish of the genus patella, only more concave; the haliotes, for instance.

[1] Forming a prolonged cone, Cuvier says, like the cerites.

[2] The mouth of which is shaped like a crescent; such as the helices, Cuvier says.

[3] The nerites, Cuvier says, which are cut into two hemispheres.

[4] Such as many of the whelks, Cuvier says.

[5] The whelks that have the edge turned inwards, so that one lip appears to fold under the other.

tinctions[6] of rayed shells, long-haired[7] shells, wavy-haired shells, channelled shells, pectinated shells, imbricated shells, reticulated shells, shells with lines oblique or rectilinear, thick-set shells, expanded shells, tortuous shells, shells the valves of which are united by one small knot, shells which are held together all along one side, shells which are open as if in the very act of applauding,[8] and shells which wind,[9] resembling a conch. The fish of this class, known as the shells of Venus,[10] are able to navigate the surface of the deep, and, presenting to the wind their concave side, catch the breeze, and sail along on the surface of the sea. Scallops are also able to leap[11] and fly above the surface of the water, and they sometimes employ their shell by way of a bark.

CHAP. 53. (34.)—WHAT NUMEROUS APPLIANCES OF LUXURY ARE FOUND IN THE SEA.

But why mention such trifles as these, when I am sensible that no greater inroads have been made upon our morals, and no more rapid advances have been made by luxury, than those effected through the medium of shell-fish? Of all the elements that exist, the sea is the one that costs the dearest to the belly; seeing that it provides so many kinds of meats,

[6] As no two naturalists might probably agree as to the exact meaning of the terms here employed, it has been thought advisable to give the passage as it appears in the original: "Jam distinctione virgulata, crinita, crispa, cuniculatim, pectinatim divisa, imbricatim undata, cancellatim reticulata, in obliquum, in rectum expansa, densata, porrecta, sinuata, brevi nodo legatis, toto latere connexis, ad plausum apertis, ad buccinum recurvis."

[7] In allusion, probably, to the streaks or lines drawn upon the exterior of the shell.

[8] With the mouth wide open, like that of a person in the act of applauding.

[9] By "ad buccinum recurvis," he probably alludes to a whelk, or fish with a turbinated shell, resembling the larger conch or trumpet shell, which Triton is sometimes described as blowing.

[10] Probably some of the Cypræa; which have been already alluded to in Note 6 to c. 41 of the present Book. Cuvier remarks, that there are many of the univalve shell-fish that float on the surface of the water, but none, with the exception of the argonauta or nautilus, are known to employ a membranous sail.

[11] Cuvier says, that he has been informed that the scallop, by suddenly bringing together the valves of its shell, is able to make a bound, and leap above the surface of the water.

so many dishes, so many exquisite flavours derived from fish, all of which are valued in proportion to the danger undergone by those who have caught them.

(35.) But still, how insignificant is all this when we come to think of our purple, our azure,[12] and our pearls; it was not enough, forsooth, for the spoils of the sea to be thrust down the gullet—but they must be employed as well to adorn the hands, the ears, the head, the whole body, in fact, and that of the men pretty nearly as much as the women. What has the sea to do with our clothes?[13] What is there in common between waves and billows and a sheep's fleece? This one element ought not to receive us, according to ordinary notions, except in a state of nakedness. Let there be ever so strong an alliance between it and the belly, on the score of gluttony, still, what can it possibly have to do with the back? It is not enough, forsooth, that we are fed upon what is acquired by perils, but we must be clothed, too, in a similar way; so true it is, that for all the wants of the body, that which is sought at the expense of human life, is sure to please us the most.

CHAP. 54.—PEARLS; HOW THEY ARE PRODUCED, AND WHERE.

The first rank then, and the very highest position among all valuables, belongs to the pearl. It is the Indian Ocean that principally sends them to us: and thus have they, amid those monsters so frightful and so huge which we have already described,[14] to cross so many seas, and to traverse such lengthened tracts of land, scorched by the ardent rays of a burning sun: and then, too, by the Indians themselves they have to be sought in certain islands, and those but very few in number. The most productive of pearls is the island of Taprobane, and that of Stoïdis, as already mentioned[15] in the description of the

[12] Ajasson says, that the words "purpuras, conchylia," here signify not the fish themselves, but the various tints produced by them; the purpura and the conchylium being, in fact, exactly the same fish, though, as will be explained in c. 60 of the present Book, by various modes of treatment, various colours were extracted from them. See also B. xxi. c. 22.

[13] Dalechamps notices here an ancient proverb, which says, "Qui nare vult, se exuit." "He who wishes to swim, takes off his clothes."

[14] In c. 2 of the present Book.

[15] In B. vi. cc. 24 and 28.

world; Perimula,[16] also, a promontory of India. But those are most highly valued which are found in the vicinity of Arabia,[17] in the Persian Gulf, which forms a part of the Red Sea.

The origin[18] and production of the shell-fish is not very different from that of the shell of the oyster. When the genial season of the year[19] exercises its influence on the animal, it is said that, yawning, as it were, it opens its shell, and so receives a kind of dew, by means of which it becomes impregnated; and that at length it gives birth, after many struggles, to the burden of its shell, in the shape of pearls, which vary according to the quality of the dew. If this has been in a perfectly pure state when it flowed into the shell, then the pearl produced is white and brilliant, but if it was turbid, then the pearl is of a clouded colour also; if the sky should happen to have been lowering when it was generated, the pearl will be of a pallid colour; from all which it is quite evident that the quality of the pearl depends much more upon a calm state of the heavens than of the sea, and hence it is that it contracts a cloudy hue, or a limpid appearance, according to the degree of serenity of the sky in the morning.

If, again, the fish is satiated in a reasonable time, then the pearl produced increases rapidly in size. If it should happen to lighten at the time, the animal shuts its shell, and the pearl is diminished in size in proportion to the fast that the animal has to endure: but if, in addition to this, it should thun-

[16] See B. vi. c. 23. Ælian, Hist. Anim. B. xv. c. 8, says to the same effect, but calls it "Perimuda, a city of India."

[17] Ælian, Hist. Anim. B. x. c. 13. It has been already remarked, in the sixth Book, that the ancients looked upon the Persian Gulf as forming part of the Erythræan or Red Sea.

[18] The pearl itself, Cuvier says, is nothing else but an extravasation, so to say, of the juices, whose duty it is to line the interior of the shell, to thicken and so amplify it; and consequently, it is produced by a malady. It is possible, he says, for them to be found in all shell-fish; but they have no beauty in them, unless the interior of the shell, the *nacre*, or, as we call it, the mother of pearl, is lustrous and beautiful itself. Hence it is, that the finest of them come from the east, and are furnished by the kind of bivalve, called by Linnæus, "Mytilus margaritiferus," which has the most beautiful mother of pearl in the interior that is known. The parts of the Indian sea which are mentioned by Pliny, are those in which the pearl oyster is still found in the greatest abundance.

[19] All this theory, as Cuvier says, is totally imaginary.

der[20] as well, then it becomes alarmed, and closing the shell in an instant, produces what is known as a physema,[21] or pearl-bubble, filled with air, and bearing a resemblance to a pearl, but in appearance only, as it is quite empty, and devoid of body; these bubbles are formed by the abortion of the shell-fish. Those which are produced in a perfectly healthy state consist of numerous layers, so that they may be looked upon, not inappropriately, as similar in conformation to the callosities on the body of an animal; and they should therefore be cleaned by experienced hands. It is wonderful, however, that they should be influenced thus pleasurably by the state of the heavens, seeing that by the action of the sun the pearls are turned of a red colour, and lose all their whiteness, just like the human body. Hence it is that those which keep their whiteness the best are the pelagiæ, or main-sea pearls, which lie at too great a depth to be reached by the sun's rays; and yet these even turn yellow with age, grow dull and wrinkled, and it is only in their youth that they possess that brilliancy which is so highly esteemed in them. When old, too, the coat grows thick, and they adhere to the shell,[22] from which they can only be separated with the assistance of a file.[23] Those pearls which have one surface flat and the other spherical, opposite to the plane side, are for that reason called tympania,[24] or tambour-pearls. I have seen pearls still adhering to the shell; for which reason the shells were used as boxes for unguents. In addition to these facts, we may remark that the pearl is soft[25] in the water, but that it grows hard the instant it is taken out.

[20] Isidorus of Charax, in his description of Parthia, commended by Athenæus, B. iii., says, on the other hand, that the fish are aided in bringing forth, by rain and thunder.

[21] From the Greek φυσήμα, "air-bubble."

[22] It sometimes happens, Cuvier says, that the secretion which forms the mother-of-pearl makes tubercles in the interior of the shell, which are the pearls adhering to the shell here spoken of.

[23] Persius alludes to this in Sat. ii. l. 66. "Hæc baccam conchæ rasisse;" "to file the pearl away from its shell."

[24] From this passage we learn that the "tympana," or hand-drums of the ancients, were often of a semiglobular shape, like the kettle-drums of the present day.

[25] Cuvier remarks that this is not the fact: the concretions are perfectly hard before the animal leaves the water.

CHAP. 55.—HOW PEARLS ARE FOUND.

The fish, as soon as ever it perceives the hand,[26] shuts its shell and covers up its treasures, being well aware that it is for them that it is sought; and if it happens to catch the hand,[27] it cuts it off with the sharp edge of the shell. And no punishment is there that could be more justly inflicted. There are other penalties added as well, seeing that the greater part of these pearls are only to be found among rocks and crags, while on the other hand, those which lie out in the main sea are generally accompanied by sea-dogs.[28] And yet, for all this, the women will not banish these gems from their ears! Some writers say,[29] that these animals live in communities, just like swarms of bees, each of them being governed by one remarkable for its size and its venerable old age;[30] while at the same time it is possessed of marvellous skill in taking all due pre-

[26] Isidorus of Charax, as quoted by Athenæus, B. iii.; and Ælian, Hist. Anim. B. x. c. 20, make similar statements. Rondelet, in his treatise on Testaceous Fishes, B. i., complains of Pliny using the word "videt," "sees," in the present passage; but, as Hardouin says, he only uses it in a free sense, meaning, "is aware of the approach of," or "has a perception of."

[27] Isidorus of Charax, in Athenæus, B. iii., tells a similar story; but modifies it by saying that the fish sometimes cuts off the *fingers* of the divers, and not the hands.

[28] "Canes marini." He calls by this name the same animal that a little further on he describes by the name of "canicula," "dog-fish;" alluding, probably, under that name to various species of the shark. Procopius, in his book, De Bell. Pers. B. i. c. 4, has a wonderful story in relation to this subject. He says, that the sea-dogs are wonderful admirers of the pearl-fish, and follow them out to sea; that when the sea-dogs are pressed by hunger, they go in quest of prey, and then return to the shell-fish and gaze upon it. A certain fisherman, having watched for the moment when the shell-fish was deprived of the protection of its attendant sea-dog, which was seeking its prey, seized the shell-fish, and made for the shore. The sea-dog, however, was soon aware of the theft, and making straight for the fisherman, seized him. Finding himself thus caught, he made a last effort, and threw the pearl-fish on shore, immediately on which he was torn to pieces by its protector.

[29] Such, for instance, as Megasthenes, quoted by Arrian in his Indica, and Ælian, Hist. Anim. B. xv. c. 8.

[30] Hardouin suggests that a preferable reading to "vetuslate," would be "venustate," by its beauty; and indeed, Ælian, in the corresponding passage, Hist. Anim. B. xv. c. 8, says, that the chief is remarkable "for its size, and the extreme beauty of its colours."

cautions against danger; the divers, they say, take especial care to find these, and when once they are taken, the others stray to and fro, and are easily caught in their nets. We learn also that as soon as they are taken they are placed under a thick layer of salt in earthen-ware vessels; as the flesh is gradually consumed, certain knots,[31] which form the pearls, are disengaged[32] from their bodies, and fall to the bottom of the vessel.

CHAP. 56.—THE VARIOUS KINDS OF PEARLS.

There is no doubt that pearls wear with use, and will change their colour, if neglected. All their merit consists in their whiteness, large size, roundness, polish, and weight; qualities which are not easily to be found united in the same; so much so, indeed, that no two pearls are ever found perfectly alike; and it was from this circumstance, no doubt, that our Roman luxury first gave them the name of "unio,"[33] or the unique gem: for a similar name is not given them by the Greeks; nor, indeed, among the barbarians by whom they are found are they called anything else but "margaritæ."[34] Even in the very whiteness of the pearl there is a great difference to be observed. Those are of a much clearer water that are found in the Red Sea,[35] while the Indian pearl resembles in tint the scales[36] of the mirror-stone, but exceeds all the others in size. The colour that is most highly prized of all, is that of those

[31] "Nucleos." The Greek authors occasionally call them "stones" and "bones." Tertullian calls them "maladies of shell-fish and warts"—"concharum vitia et verrucas."

[32] Cuvier says, that the most efficient mode of extracting all the concretions that may happen to be concealed in the body of the animal, is to leave the flesh to dissolve in water, upon which the concretions naturally fall to the bottom.

[33] Isidorus and Solinus, however, say that the pearl is so called, because two are never found together. The derivation given by Pliny is, however, the more probable one. From the Latin "unio," comes our word "onion;" which, like the pearl, consists of numerous coats, one laid upon the other.

[34] Hence we must conclude that the word "margarita" is not of Greek, but Eastern origin.

[35] Ælian, Hist. Anim. B. xv. c. 8, says, that the Indian pearls, and those which come from the Red Sea, are the best.

[36] The laminæ of the lapis specularis, described by Pliny, B. xxxvi. c. 45.

which are thence called alum-coloured[37] pearls. Long pearls also have their peculiar value; those are called "elenchi," which are of a long tapering shape, resembling our alabaster[38] boxes in form, and ending in a full bulb.[39] Our ladies quite glory in having these suspended from their fingers, or two or three of them dangling from their ears. For the purpose of ministering to these luxurious tastes, there are various names and wearisome refinements which have been devised by profuseness and prodigality; for after inventing these ear-rings, they have given them the name of "crotalia,"[40] or castanet pendants, as though quite delighted even with the rattling of the pearls as they knock against each other; and now, at the present day, the poorer classes are even affecting them, as people are in the habit of saying, that "a pearl worn by a woman in public, is as good as a lictor[41] walking before her." Nay, even more than this, they put them on their feet, and that, not only on the laces of their sandals, but all over the

[37] "Exaluminatos." It is clear from this passage that Pliny was acquainted with our alum, as he here clearly implies that the alum known to him was of a white colour. Beckmann, however, in his History of Inventions, asserts that our alum was *certainly* not known to the Greeks and Romans, and that their "alumen" was nothing else but vitriol, the green sulphate of iron, and that not in its pure state, but such as forms in mines. Pereira, however, in his Materia Medica, says, that there can be little doubt that Pliny was acquainted with our alum, but did not distinguish it from sulphate of iron, as he informs us that one kind of alum was white, and was used for dyeing wool of various colours. It is mentioned more fully in B. xxxv. c. 52, where he speaks of its use in dyeing.

[38] These alabaster boxes for unguents are mentioned by Pliny in B. xxxvi. c. 12. They were usually pear-shaped; and as they were held with difficulty in the hand, on account of their extreme smoothness, they were called ἀλάβαστρα, from ἀ, "not," and λαβέσθαι, "to be held." The reader will recollect the offer made to our Saviour, of the "alabaster box of ointment of spikenard, very precious." Matt. xxvi. 7. Mark xiv. 3.

[39] Seneca, Benef. B. vii. c. 9, speaks of them as hanging in tiers from the ears of the Roman matrons, two and two; and he says that they are not satisfied unless they have two or three patrimonies suspended from each ear.

[40] From their resemblance to "crotala," used by dancers, and similar to our castanets.

[41] That the pearls as fully bespeak the importance of the wearer, as the lictor does of the magistrate whom he is preceding. The honour of being escorted by one or two lictors, was usually granted to the wives and other members of the imperial family.

shoes;[42] it is not enough to wear pearls, but they must tread upon them, and walk with them under foot as well.

Pearls used formerly to be found in our sea, but more frequently about the Thracian Bosporus;[43] they were of a red colour, and small,[44] and enclosed in a shell-fish known by the name of "myes." In Acarnania there is a shell-fish called "pina,"[45] which produces pearls; and from this it is quite evident that it is not one kind of fish only that produces them. Juba states also, that on the shores of Arabia there is a shell-fish which resembles a notched comb, and covered all over with hair[46] like a sea-urchin, and that the pearl lies imbedded in its flesh, in appearance bearing a strong resemblance to a hail-stone.[47] No such shell-fish, however, as these are ever brought to Rome. Nor yet are any pearls of value found in Acarnania, being shapeless, rough, and of a marble hue; those are better which are found in the vicinity of Actium; but still they are small, which is the case also with those found on the coast of Mauritania. Alexander Polyhistor and Sudines[48] are of opinion that as they grow old their tints gradually fade.

CHAP. 57.—REMARKABLE FACTS CONNECTED WITH PEARLS—THEIR NATURE.

It is quite clear that the interior of the pearl is solid, as no fall is able to break it. Pearls are not always found in the middle of the body of the animal, but sometimes in one place,

[42] Even on the "socculus," or "soccus," a shoe or slipper which did not require any "obstragulum," or tie. We find from Seneca, De Ben. B. ii. c. 12, and Pliny, B. xxxvii. c. 6, that Caligula wore gold and pearls upon his socculi.

[43] Ælian, Hist. Anim. B. xv. c. 8, states to this effect from Juba.

[44] They are found also, Ajasson says, at the present day, in some of the coldest rivers and torrents of Auvergne.

[45] Or "pinna," the Greek name of this kind of pearl oyster.

[46] Cuvier remarks, that he is here probably speaking of some spiny bivalve, perhaps the Spondylus of Linnæus.

[47] "Grandini." But Hardouin thinks, and probably correctly, that the meaning here of the word is the "measles of swine;" for Androsthenes, in Athenæus, B. iii., has a similar passage, in which he says: "The stone (*i. e.* pearl) grows in the flesh of the shell-fish, just as the measles grow in the flesh of swine."

[48] He is also mentioned in B. xxxvi. c. 12, and B. xxxvii. cc. 9, 11, 23, 35, and 50, as a writer on gems; but nothing else seems to be known of him.

and sometimes another. Indeed, I have seen some which lay at the edge of the shell, just as though in the very act of coming forth, and in some fishes as many as four or five. Up to the present time, very few have been found which exceeded half an ounce in weight, by more than one scruple. It is a well-ascertained fact, that in Britannia[49] pearls are found, though small, and of a bad colour; for the deified Julius Cæsar[50] wished it to be distinctly understood,[51] that the breast-plate which he dedicated to Venus Genetrix, in her temple, was made of British pearls.

CHAP. 58.—INSTANCES OF THE USE OF PEARLS.

I once saw Lollia Paulina,[52] the wife of the Emperor Caius[53] —it was not at any public festival, or any solemn ceremonial, but only at an ordinary wedding entertainment[54]—covered

[49] Cuvier observes, that most of the rivers and lakes of the north of Europe possess the mya margarifera: the pearls of which, though much inferior to those of the East, are sufficiently esteemed to be made an article of commerce. Bad pearls, of a dead marble colour, are also very frequently found in the mussels taken off our coasts. Pearls have in modern times declined very considerably in value; those of about the size of a large pea can be purchased, of very fine quality, for about a guinea each, while those of the size of a pepper-corn sell at about eighteen-pence. Seed pearls, of the size of small shot, are of very little value. Tavernier speaks of a remarkable pearl, that was found at Catifa, in Arabia, the fishery probably alluded to by Pliny, in C. 54, and which he bought for the sum of £110,000, some accounts say £10,000, of our money. It is pear-shaped, the elenchus of the ancients, regular, and without blemish. The diameter is .63 of an inch, at the largest part, and the length from two to three inches. It is said to be in the possession of the Shah of Persia.

[50] Tacitus, in his Agricola, says that pearls of a tawny and livid colour are thrown up on the shores of Britain, and there collected. Suetonius absolutely says, c. 4, that Julius Cæsar invaded Britain in the hope of obtaining pearls, in the weight and size of which he took considerable interest.

[51] By the inscription placed beneath the thorax, or breast-plate.

[52] The grand-daughter of M. Lollius, and heiress to his immense wealth. She was first married to C. Memmius Regulus; but was divorced from him, and married to the Emperor Caligula, who, however, soon divorced her. At the instigation of Agrippina, Claudius first banished her, and then caused her to be murdered. A sepulchre to her honour was erected in the reign of the Emperor Nero.

[53] Caligula.

[54] Or rather "betrothal entertainment," "sponsalium cœna." The "sponsalia" were not an unusual preliminary of marriage, but were not absolutely necessary.

with emeralds and pearls, which shone in alternate layers upon her head, in her hair, in her wreaths, in her ears, upon her neck, in her bracelets, and on her fingers, and the value of which amounted in all to forty millions[55] of sesterces; indeed[56] she was prepared at once to prove the fact, by showing the receipts and acquittances. Nor were these any presents made by a prodigal potentate, but treasures which had descended to her from her grandfather, and obtained by the spoliation of the provinces. Such are the fruits of plunder and extortion! It was for this reason that M. Lollius[57] was held so infamous all over the East for the presents which he extorted from the kings; the result of which was, that he was denied the friendship of Caius Cæsar, and took poison;[58] and all this was done, I say, that his grand-daughter might be seen, by the glare of lamps, covered all over with jewels to the amount of forty millions of sesterces! Now let a person only picture to himself, on the one hand, what was the value of the habits worn by Curius or Fabricius in their triumphs, let him picture to himself the objects displayed to the public on their triumphal litters,[56*] and then, on the other hand, let him think upon this Lollia, this one bit[59] of a woman, the head of an empire, taking her place at table, thus attired; would he not much rather that the conquerors had been torn from their very chariots, than that they had conquered for such a result as this?

[55] 7,600,000 francs, Hardouin says; which would make £304,000 of our money.

[56] "Ipsa confestim parata mancupationem tabulis probare."

[57] He was proprætor of the province of Galatia, Consul B.C. 21, and B.C. 16 legatus in Gaul; where he suffered a defeat from certain of the German tribes. He was afterwards appointed by Augustus tutor to his grandson, C. Cæsar, whom he accompanied to the East in B.C. 2. He was a personal enemy of Tiberius, which may in some measure account for the bad character given him by Velleius Paterculus, who describes him as more eager to make money than to act honourably, and as guilty of every kind of vice. Horace, on the other hand, in the ode addressed to him, Carm. iv. 9, expressly praises him for his freedom from all avarice. His son, M. Lollius, was the father of Lollia Paulina.

[58] This does not appear to be asserted by any other author; but Velleius Paterculus almost suggests as much, B. ii., "Cujus mors intra paucos dies fortuita an voluntaria fuerit ignoro." It was said that he was in the habit of selling the good graces of Caius Cæsar to the Eastern sovereigns for sums of money.

[56*] "Fercula." See vol. i. p. 400, Note 1.

[59] "Unam imperii mulierculam accubantem."

Nor, indeed, are these the most supreme evidences of luxury. There were formerly two pearls, the largest that had been ever seen in the whole world: Cleopatra, the last of the queens of Egypt, was in possession of them both, they having come to her by descent from the kings of the East. When Antony had been sated by her, day after day, with the most exquisite banquets, this queenly courtesan, inflated with vanity and disdainful arrogance, affected to treat all this sumptuousness and all these vast preparations with the greatest contempt; upon which Antony enquired what there was that could possibly be added to such extraordinary magnificence. To this she made answer, that on a single entertainment she would expend ten millions[60] of sesterces. Antony was extremely desirous to learn how that could be done, but looked upon it as a thing quite impossible; and a wager was the result. On the following day, upon which the matter was to be decided, in order that she might not lose the wager, she had an entertainment set before Antony, magnificent in every respect, though no better than his usual repast. Upon this, Antony joked her, and enquired what was the amount expended upon it; to which she made answer that the banquet which he then beheld was only a trifling appendage[61] to the real banquet, and that she alone[62] would consume at the meal to the ascertained value of that amount, she herself would swallow the ten millions of sesterces; and so ordered the second course to be served. In obedience to her instructions, the servants placed before her a single vessel, which was filled with vinegar, a liquid, the sharpness and strength of which is able[63] to dis-

[60] A fourth of the sum mentioned in Note 55.

[61] "Corollarium."

[62] "Et consumpturam eam cœnam taxationem confirmans."

[63] "It was because pearls are calcareous, that Cleopatra was able to dissolve hers in vinegar, and by these means to gain a bet from her lover, as we are told by Pliny, B. ix. c. 58, and Macrobius, Sat. B. ii. c. 13. She must, however, have employed stronger vinegar than that which we use for our tables; as pearls, on account of their hardness and their natural enamel, cannot be easily dissolved by a weak acid. Nature has secured the teeth of animals against the effect of acids, by an enamel covering, which answers the same purpose; but if this enamel happens to be injured only in one small place, the teeth soon spoil and rot. Cleopatra, perhaps, broke and pounded the pearls [pearl]; and it is probable that she afterwards diluted the vinegar with water, that she might be able to drink it; though dissolved calcareous matter neutralizes acids, and renders them imper-

solve pearls. At this moment she was wearing in her ears those choicest and most rare and unique productions of Nature; and while Antony was waiting to see what she was going to do, taking one of them from out of her ear, she threw it into the vinegar, and directly it was melted, swallowed it. Lucius Plancus,[64] who had been named umpire in the wager, placed his hand upon the other at the very instant that she was making preparations to dissolve it in a similar manner, and declared that Antony had lost—an omen which,[65] in the result, was fully confirmed. The fame of the second pearl is equal to that which attends its fellow. After the queen, who had thus come off victorious on so important a question, had been seized, it was cut asunder, in order that this, the other half of the entertainment, might serve as pendants for the ears of Venus, in the Pantheon at Rome.

CHAP. 59.—HOW PEARLS FIRST CAME INTO USE AT ROME.

Antony and Cleopatra, however, will not bear away the palm of prodigality in this respect, and will be stripped of even this boast in the annals of luxury. For before their time, Clodius, the son of the tragic actor Æsopus,[66] had done the

ceptible to the tongue. That pearls are not peculiar to one kind of shell-fish, as many believe, was known to Pliny." *Beckmann's History of Inventions*, vol. i. p. 258, note 1, *Bohn's Ed.* We may remark, however that as the story is told by Pliny, there is no appearance that Cleopatra *pounded* the pearl. It is more likely that she threw it into the vinegar, and immediately swallowed it, taking it for granted that it had melted.

[64] Macrobius, Saturn. B. iii. says, "Monatius" Plancus. His name was in reality Lucius Munatius Plancus. He afterwards deserted Antony, and took the side of Octavianus; and it was on his proposal that Octavianus received the title of Augustus in B.C. 27. He built the temple of Saturn, in order to secure the emperor's favour. It is not known in what year he died.

[65] "Omine rato." He means, that in the result, it was only too true that Antony was "victus," conquered, and that by his enemy Octavianus.

[66] Claudius, or Clodius Æsopus, was the most celebrated tragic actor at Rome in the time of Cicero, and was probably a freedman of the Clodian family. Horace and other authors put him on a level with Roscius. From Cicero we learn that his acting was characterized chiefly by strong emphasis and vehemence. Cicero characterizes him as a "summus artifex," a "consummate artist." He was a firm friend of Cicero, whose cause he advocated indirectly more than once during his banishment from Rome. It appears from Pliny, B. x. c. 72, that he was far from frugal, though he left a large fortune to his spendthrift son, Clodius

same at Rome; having been left by his father heir to his ample wealth and possessions. Let not Antony then be too proud, for all his trumvirate, since he can hardly stand in comparison with an actor; one, too, who had no wager to induce him—a thing which adds to the regal munificence of the act—but was merely desirous of trying, by way of glorification to his palate, what was the taste of pearls. As he found it to be wonderfully pleasing, that he might not be the only one to know it, he had a pearl set before each of his guests for him to swallow. After the surrender of Alexandria, pearls came into common and, indeed, universal use at Rome; but they first began to be used about the time of Sylla, though but of small size and of little value, Fenestella says—in this, however, it is quite evident that he is mistaken, for Ælius Stilo tells us, that it was in the time of the Jugurthine war, that the name of "unio" was first given to pearls of remarkable size.

CHAP. 60.—THE NATURE OF THE MUREX AND THE PURPLE.

And yet pearls may be looked upon as pretty nearly a possession of everlasting duration—they descend from a man to his heir, and they are alienated from one to another just like any landed estate. But the colours that are extracted from the murex[67] and the purple fade from hour to hour; and yet luxury, which has similarly acted as a mother to them, has set upon them prices almost equal to those of pearls.

Æsopus. This man, among his other feats, dissolved in vinegar (or at least attempted to do so), a pearl worth about £8000, which he took from the ear-ring of Cæcilia Metella. It is alluded to by Horace, B. ii. Sat. iii. l. 239.

[67] Or "conchylium." We find that Pliny generally makes a difference between the colours of the "murex," or "conchylium," and those of the "purpura," or "purple." Cuvier says, that they were the names of different shell-fish which the ancients employed for dyeing in purple of various shades. It is not known exactly, at the present day, what species they employed; but it is a fact well ascertained, that the greater part of the univalve shell-fish, more especially the Buccini and Murices of Linnæus, distil a kind of red liquid. The dearness of it arose, Cuvier thinks, from the remarkably small quantity that each animal afforded. Since the coccus, or kermes, he says, came to be well known, and more especially since the New World has supplied us with cochineal, we are no longer necessitated to have recourse to the juices of the murex.

(36.) Purples live mostly seven[68] years. Like the murex, they keep themselves in concealment for thirty days, about the time of the rising of the Dog-star; in the spring season they unite in large bodies, and by rubbing against each other, produce a viscous spittle, from which a kind of wax is formed. The murex does the same; but the purple[69] has that exquisite juice which is so greatly sought after for the purpose of dyeing cloth, situate in the middle of the throat. This secretion consists of a tiny drop contained in a white vein, from which the precious liquid used for dyeing is distilled, being of the tint of a rose somewhat inclining to black. The rest of the body is entirely destitute of this juice. It is a great point to take the fish alive; for when it dies, it spits out this juice. From the larger ones it is extracted after taking off the shell; but the small fish are crushed alive, together with the shells, upon which they eject this secretion.

In Asia the best purple is that of Tyre, in Africa that of Meninx[70] and the parts of Gætulia that border on the Ocean, and in Europe that of Laconia. It is for this colour that the fasces and the axes[71] of Rome make way in the crowd; it is this that asserts the majesty of childhood;[72] it is this that distinguishes the senator[73] from the man of equestrian rank; by persons arrayed in this colour are prayers[74] ad-

[68] Aristotle, Hist. Anim. B. v. c. 14, says, "about six." The murex of Pliny is the κήρυξ of Aristotle.

[69] Aristotle says, that the purple consists of three parts, the upper being the τράγηλος, or neck; the middle the μήκων, or poppy; and the lower the πυθμήν, or trunk; and that the juice lies between the first and second of these parts, or the throat. This juice, which Pliny calls "flos," "flower," "ros," "dew," and "succus," "juice," is distilled, Cuvier says, not from the fauces of the animal, but from the mantle or membranous tissue which lines the shell.

[70] See B. v. c. 7. See also B. vi. c. 36.

[71] Which preceded the Roman consuls, who were clothed with the toga prætexta, the colour of which was Syrian purple.

[72] Hardouin seems to think that "majestate pueritiæ" means "children of high birth;" but it was the fact that all children of free birth wore the prætexta, edged with purple, till they attained puberty. It is much more probable that by these words Pliny means the "majesty of youth," in its simplicity and guileless nature, that commands our veneration and respect.

[73] He means that the purple laticlave or broad hem of the senator's toga distinguished him from the eques, who wore a toga with an angusticlave, or narrow hem.

[74] From Cicero, Epist. Ad. Attic. B. ii. Ep. 9, we learn that purple

dressed to propitiate the gods; on every garment[75] it sheds a lustre, and in the triumphal vestment[76] it is to be seen mingled with gold. Let us be prepared then to excuse this frantic passion for purple, even though at the same time we are compelled to enquire, why it is that such a high value has been set upon the produce of this shell-fish, seeing that while in the dye the smell of it is offensive, and the colour itself is harsh, of a greenish hue, and strongly resembling that of the sea when in a tempestuous state?

The tongue of the purple is a finger[77] in length, and by means of this it finds subsistence, by piercing other shell-fish,[78] so hard is the point of it. They die in fresh water, and in places where rivers discharge themselves into the sea; otherwise, when taken, they will live as long as fifty days on their saliva. All shell-fish grow very fast, and purples more especially; they come to their full size at the end of a year.

CHAP. 61.—THE DIFFERENT KINDS OF PURPLES.

Were I at this point to pass on to other subjects, luxury, no doubt would think itself defrauded of its due, and so accuse me of negligence; I must therefore make my way into the very workshops even, so that, just as among articles of food the various kinds and qualities of corn are known, all those who place the enjoyment of life in these luxuries, may have a still better acquaintance with the objects for which they live.[79]

was worn by the priests when performing sacrifice. Ajasson, however, agrees with Dalechamps in thinking that this passage bears reference to the consuls, who wore purple when sacrificing to the gods.

[75] The prætexta, for instance, the laticlave, the chlamys, the paludamentum, and the trabea.

[76] On the occasion of a triumph, the victor was arrayed in a "toga picta," an embroidered garment, which, from the present passage, would appear to have been of purple and gold. Pliny tells us, B. xxxiii. c. 19, that Tarquinius, on his triumph over the Sabines, wore a robe of cloth of gold.

[77] Aristotle says the same, Hist. Anim. B. v. c. 14, and De Partib. Anim. B. ii. c. 17. Cuvier says, that the buccinus and murex have a long neck, in which there is a tongue armed with little teeth, but very sharp, by means of which the animal is enabled to pierce other shell-fish.

[78] "Conchylia;" other fish of the same kind apparently; as Pliny uses the word "conchylium" synonymously with "murex."

[79] "Præmia vitæ suæ."

There are two kinds of fish that produce the purple colour; the elements in both are the same, the combinations only are different; the smaller fish is that which is called the "buccinum," from its resemblance to the conch by which the sound of the buccinus or trumpet is produced, and to this circumstance it owes its name: the opening in it is round, with an incision in the margin.[80] The other fish is known as the "purpura," or purple, and has a grooved and projecting muzzle, which being tubulated on one side in the interior, forms a passage for the tongue;[82] besides which, the shell is studded with points up to the very apex, which are mostly seven in number, and disposed[83] in a circle; these are not found on the buccinum, though both of them have as many spirals as they are years old. The buccinum attaches itself only to crags, and is gathered about rocky places.

(37.) Purples also have another name, that of "pelagiæ:[84] there are numerous kinds of them, which differ only in their element and place of abode. There is the mud[85] purple, which is nurtured upon putrid mud; and the sea-weed[86] purple, which feeds on sea-weed; both of which are held in the very lowest esteem. A better kind is the reef-purple,[87] which is collected on the reefs or out at sea; still, however, the colour extracted from this is too light and thin. Then, again, there is the variety known as the pebble-purple,[88] so called from the pebbles of the sea, and wonderfully well adapted for dyeing; and, better

[80] Cuvier says that the buccini, properly so called, have at the bottom of the orifice of the shell an incision, which is the characteristic of the genus. Our whelks are the best known specimen of the buccinum that we have. They received their name, he says, from the buccinum, or buccina, the conch-shell, (with which Triton is commonly painted), and that in its turn was so called from its resemblance to a buccina, trumpet or herdsman's horn.

[82] It is not the tongue, Cuvier says, that occupies this passage, but a prolongation of the skin or coat that envelopes the animal, and its office is to conduct to the branchiæ the water necessary for the purposes of respiration.

[83] This description, Cuvier says, is applicable to the Murex brandaris, the Murex tribulus of Linnæus, and other species that denote their growth by the increase of the spirals furnished with spines.

[84] Or "deep sea" purples. Dalechamps remarks, that Pliny here unwittingly gives to the purples in general, a name which only belonged to one species; there being some that only frequent the shore, and are not found out at sea.

[85] "Lutensis."

[86] "Algensis."

[87] "Tæniensis."

[88] "Calculensis."

than any of them, that known by the name of "dialutensis,"[89] because of the various natures of the soil on which it feeds. Purples are taken with a kind of osier kipe[90] of small size, and with large meshes; these are cast into the sea, and in them cockles are put as a bait, that close the shell in an instant, and snap at an object, just as we see mussels do. Though half dead, these animals, as soon as ever they are returned to the sea, come to life again, and open their shells with avidity; upon which the purples seek them, and commence the attack, by protruding their tongues. The cockles, on the other hand, the moment they feel themselves pricked, shut their shells, and hold fast the object that has wounded them: in this way, victims to their greediness, they are drawn up to the surface hanging by the tongue.

CHAP. 62. (38.)—HOW WOOLS ARE DYED WITH THE JUICES OF THE PURPLE.

The most favourable season for taking these fish is after the rising of the Dog-star, or else before spring; for when they have once discharged[91] their waxy secretion, their juices have no consistency: this, however, is a fact unknown in the dyers' workshops, although it is a point of primary importance. After it is taken, the vein is extracted, which we have[92] previously spoken of, to which it is requisite to add salt, a sextarius[93] about to every hundred pounds of juice. It is sufficient to leave them to steep for a period of three days, and no

[89] From the Greek διαλυτὸς, "free," or "roving;" in consequence of its peculiar mode of life.

[90] Nassis. See Note 51 in p. 421.

[91] "Quum cerificavere." Cuvier remarks that Aristotle, Hist. Anim. B. v. c. 14, says, that these shell-fish make "waxen combs," meaning thereby collections of cells, similar to those formed by the bee; and it is to this notion that Pliny refers in the use of the word "cerificavere." It is the fact, Cuvier says, that the univalve sea shell-fish, and more particularly the buccini and the murices, envelope their eggs with glutinous vesicles of varied forms, according to the respective species; which, when massed together, may be not inappropriately termed "combs."

[92] In c. 60. As Cuvier remarks, with considerable justice, this description by Pliny of the process of dyeing in purple, is very difficult to explain, seeing that the art is now entirely lost. Reaumur, he says, made some attempts at dyeing with a small buccinum found off the French coasts, the Buccinum lapillus of Linnæus; but without any result.

[93] About twenty ounces.

more, for the fresher they are, the greater virtue there is in the liquor. It is then set to boil in vessels of tin,[93] and every hundred amphoræ[94] ought to be boiled down to five hundred pounds of dye, by the application of a moderate heat; for which purpose the vessel is placed at the end of a long funnel, which communicates with the furnace; while thus boiling, the liquor is skimmed from time to time, and with it the flesh, which necessarily adheres to the veins. About the tenth day, generally, the whole contents of the cauldron are in a liquified state, upon which a fleece, from which the grease has been cleansed, is plunged into it by way of making trial; but until such time as the colour is found to satisfy the wishes of those preparing it, the liquor is still kept on the boil. The tint that inclines to red is looked upon as inferior to that which is of a blackish hue. The wool is left to lie in soak for five hours, and then, after carding it, it is thrown in again, until it has fully imbibed the colour. The juice of the buccinum is considered very inferior if employed by itself, as it is found to discharge its colour; but when used in conjunction with that of the pelagiæ, it blends[95] with it very well, gives a bright lustre to its colour, which is otherwise too dark, and imparts the shining crimson hue of the kermes-berry, a tint that is particularly valued. By the admixture of their respective virtues these colours are thus heightened or rendered sombre by the aid of one another. The proper proportions for mixing are, for fifty pounds of wool, two hundred pounds of juice of the buccinum and one hundred and eleven of juice of the pelagiæ.

[93] Because iron or brazen vessels might impart a tinge to the colour. The same would probably be the case if the word "plumbo" were to be considered as signifying "lead." As, however, Pliny uses this word in the signification of "tin," it is most probable that that is his meaning. Littré, however, translates the word "plombe," "lead."

[94] Hardouin says, that the weight of the contents of the amphora would be about eighty pounds: it would therefore take eight thousand pounds of material to make five hundred pounds of dye. The passage, however, which runs as follows, "Fervere in plumbo, singulasque amphoras centenas ad quingentenas medicaminis libras æquari," may be rendered, "It is then set to boil in vessels of tin, and every hundred amphoræ of water ought to be proportioned to five hundred pounds of the material;" indeed, this is probably the correct translation, though Littré, who is generally very exact, adopts that given in the text.

[95] "Alligatur:" which word may also mean, that mixed with the buccinum, it will hold fast, and not speedily fade or wash out.

From this combination is produced the admirable tint known as amethyst colour.[96] To produce the Tyrian hue the wool is soaked in the juice of the pelagiæ while the mixture is in an uncooked and raw state; after which its tint is changed by being dipped in the juice of the buccinum. It is considered of the best quality when it has exactly the colour of clotted blood, and is of a blackish hue to the sight, but of a shining appearance when held up to the light; hence it is that we find Homer speaking of "purple blood."[97]

CHAP. 63. (39.)—WHEN PURPLE WAS FIRST USED AT ROME: WHEN THE LATICLAVE VESTMENT AND THE PRÆTEXTA WERE FIRST WORN.

I find that, from the very first, purple has been in use at Rome, but that Romulus employed it for the trabea.[98] As to the toga prætexta and the laticlave[99] vestment, it is a fact well ascertained, that Tullus Hostilius was the first king who made use of them, and that after the conquest of the Etruscans. Cornelius Nepos, who died in the reign of the late Emperor Augustus, has left the following remarks: "In the days of my youth," says he, "the violet purple was in favour, a pound of which used to sell at one hundred denarii; and not long after, the Tarentine[1] red was all the fashion. This last was

[96] So called from the gem of that name; see B. xxxvii. c. 40.

[97] Αἵματι πορφυρέῳ. Il. P. l. 360, for instance.

[98] The "trabea" was similar in cut to the toga, but was ornamented with purple horizontal stripes. Servius mentions three kinds of trabea; one wholly of purple, which was sacred to the gods, another of purple and white, and another of purple and saffron, which belonged to the augurs. The purple and white trabea was the royal robe, worn by the early kings, and the introduction of which was assigned to Romulus. The trabea was worn by the consuls in public solemnities, such as opening the temple of Janus. The equites also wore it on particular occasions; and it is sometimes spoken of as the badge of the equestrian order.

[99] The latus clavus, or laticlave, was originally worn on the tunic, and was a distinctive badge of the senatorian order. It consisted of a single broad band of purple colour, extending perpendicularly from the neck down the centre of the tunic. The right of wearing the laticlave was given to children of the equestrian order, at least, as we learn from Ovid, in the reign of Augustus.

[1] Hardouin says, that in his time there were still to be seen the remains of the ancient dyeing houses at Tarentum, the modern Otranto, and that vast heaps of the shells of the murex had been discovered there.

succeeded by the Tyrian dibapha,[2] which could not be bought for even one thousand denarii per pound. P. Lentulus Spinther, the curule ædile, was the first who used the dibapha for the prætexta, and he was greatly censured for it; whereas now-a-days," says he, "who is there that does not have purple hangings[3] to his banqueting-couches, even?"

This Spinther was ædile in the consulship of Cicero, and in the year from the Building of the City, 691. "Dibapha" was the name given to textures that had been doubly dyed, and these were looked upon as a mighty piece of costly extravagance; while now, at the present day, nearly all the purple cloths that are reckoned of any account are dyed in a similar manner.

CHAP. 64.—FABRICS CALLED CONCHYLIATED.

Fabrics that are called conchyliated are subjected to the same process in all other respects, but without any admixture of the juice of the buccinum; in addition to which, the liquid is mixed with water and human urine in equal parts,[4] one-half[5] only of the proportion of dye being used for the same quantity of wool. From this mixture a full colour is not obtained, but that pale tint, which is so highly esteemed; and the clearer[6] it is, the less of it the wool has imbibed.

(40.) The prices of these dyes vary in proportion to the quantity produced by the various shores; still, however, those who are in the habit of paying enormous prices for them, may as well be informed that on no occasion ought the juice of

[2] Cloths doubly dyed, or twice dipped: from the Greek δίς, twice, and βάπτω, to dip.

[3] "Triclinaria." This word probably signified not only the hangings of the table couches, but the coverings, and the coverlets which were spread over the guests while at the meal.

[4] "Pro indiviso."

[5] "Dimidia et medicamina adduntur." This, no doubt, is the sense of the passage, as it is evident that only a thinner dye was required for tint, though at first sight it would appear as though one-half more were required for the same quantity of wool. The quantity therefore would be 155½ pounds of dye to fifty pounds of wool.

[6] "Tantoque dilutior, quanto magis vellera esuriunt." This seems to be the meaning of the passage: some commentators would read "dilucidior" for "dilutior," and it would appear to be preferable.

of the pelagiæ to exceed fifty,[7] and that of the buccinum one hundred sesterces for one hundred pounds.[8]

CHAP. 65.—THE AMETHYST, THE TYRIAN, THE HYSGINIAN, AND THE CRIMSON TINTS.

But no sooner have we finished with one branch of this subject than we have to begin upon another, for we find that it is made quite a matter of sport to create expense; and not only this, but the sport must be doubled by making new mixtures and combinations, and falsifying over again what was a falsification of the works of Nature already; such, for instance, as staining tortoise-shell,[9] alloying gold with silver for the purpose of making electrum,[10] and then adding copper to the mixture to make Corinthian metal.[11]

(41.) It was not sufficient to have borrowed from a precious stone the name of "amethyst" for a dye, but when we have obtained this colour we must drench it over again with Tyrian tints,[12] so that we may have an upstart name[13] compounded of both, and at the same moment a two-fold display of luxury; for as soon as ever people have succeeded in obtaining the conchyliated colour, they immediately begin to think that it will do better as a state of transition to the Tyrian hues. There can be little doubt that this invention is due to some artist who happened to change his mind, and alter a tint with which he was not pleased: hence a system has taken its rise, and spirits, ever on the rack for creating wonders, have transformed what was originally a blunder into something quite desirable; while, at the same time, a double path has

[7] There can be little doubt that Salmasius is right in his conjecture that the reading here should be "quingentos," "five hundred," instead of "quinquagenos," "fifty:" as it is evident from what Pliny has said in previous Chapters, that the juices of the pelagia were considerably more valuable than those of the buccinum.

[8] He states this by way of warning to those who are in the habit of paying enormous prices for dyes, such as one hundred denarii for a pound, as mentioned in the last Chapter.

[9] This is mentioned more fully in B. xvi. c. 84.

[10] See B. xxxiii. c. 23. Electrum was an artificial metal, resembling amber in colour, and consisting of gold alloyed with one-fifth part of silver.

[11] See B. xxxiv. c. 3. It was a mixture of gold, silver, and copper.

[12] Described at the end of c. 62.

[13] "Nomen improbum."

been pointed out to luxury, in thus making one colour carry another, and thereby become, as they say, softer and more mellow. And what is even more than this, human ingenuity has even learned to mingle with these dyes the productions of the earth, and to steep in Tyrian purple fabrics already dyed crimson with the berry of the kermes, in order to produce the hysginian[14] tint. The kermes of Galatia, a red berry which we shall mention when we come to speak[15] of the productions of the earth, is the most esteemed of all, except, perhaps, the one that grows in the vicinity of Emerita,[16] in Lusitania. However, to make an end, once for all, of my description of these precious dyes, I shall remark, that the colour yielded by this grain[17] when a year old, is of a pallid hue, and that if it is more than four years old, it is quickly discharged: hence we find that its energies are not developed either when it is too young or when old.

I have now abundantly treated of an art, by means of which men, just as much as women, have an idea that their appearance may be set off to the greatest possible advantage.

CHAP. 66. (42.)—THE PINNA, AND THE PINNOTHERES.

Belonging to the shell-fish tribe there is the pinna[18] also: it is found[19] in slimy spots, always lying upright, and never

[14] From the Greek ὕσγινος, after the herb hysge, which was used in dyeing. Judging from the present passage, it would almost appear to have been the colour now known as puce. See B. xxi. c. 3[illegible] and c. 97; and B. xxxv. c. 26.

[15] See B. xvi. c. 8, and B. xxiv. c. 4.

[16] See B. iv. c. 35.

[17] This is in reality the Coccus ilicis of Linnæus, a small insect of the genus Coccus, the female of which, when impregnated, fastens itself to a tree from which they derive nourishment, and assumes the appearance of a small grain: on which account they were long taken for the seeds of the tree, and were hence called grains of kermes. They are used as a red and scarlet dye, but are very inferior to cochineal, which has almost entirely superseded the use of the kermes. The colour is of a deep red, and will stand better than that of cochineal, and is less liable to stain.

[18] Or pina. The Pinna marina, Cuvier says, is a large bivalve shell-fish, which is remarkable for its fine silky hair, by means of which it fastens itself to the bottom of the sea.

[19] The poet Oppian, Halieut. B. ii. l. 186, relates the same story about the pinna and its protector; which is also mentioned by Cicero, Plutarch, and Aristotle.

without a companion, which some writers call the pinnotheres,[20] and others, again, pinnophylax, being a small kind of shrimp, or else a parasitical crab. The pinna,[21] which is destitute of sight, opens its shell, and in so doing exposes its body within to the attacks of the small fish, which immediately rush upon it, and finding that they can do so with impunity, become bolder and bolder, till at last they quite fill the shell. The pinnotheres, looking out for the opportunity, gives notice to the pinna at the critical moment by a gentle bite, upon which the other instantly closes its shell, and so kills whatever it has caught there; after which, it divides the spoil with its companion.

CHAP. 67.—THE SENSITIVENESS OF WATER ANIMALS; THE TORPEDO, THE PASTINACA, THE SCOLOPENDRA, THE GLANIS, AND THE RAM-FISH.

Upon[22] reflecting on such facts as these, I am the more inclined to wonder at the circumstance that some persons have been found who were of opinion that the water animals are devoid of all sense. The torpedo[23] is very well aware of the extent of its own powers, and that, too, although it experiences no benumbing effects from them itself. Lying concealed in

[20] We have already had an account of one pinnotheres, in c. 51. Some of the editions, however, make a difference in the spelling of the name, and call the animal mentioned in the 51st Chapter, "pinnotheres," and the one here spoken of, the "pinnoteres," the "guardian of the pinna;" from the Greek verb τηρέω, "to keep," or "guard." "Pinnophylax" has the same meaning.

[21] Cuvier says, that in the shell of the pinna, as, in fact, of all the bivalves, there are often found little crabs, which are, as it were, imprisoned there; and that it is this fact that has given rise to the story of the treaty of amity between these two animals, which appears in various authors, and is related in various forms, which only agree in being devoid of truth. Cuvier says that a careful distinction must be made between the pinnotheres of this Chapter, the one of which Aristotle makes mention, and that which is mentioned by Pliny in c. 51, the hermit-crab of the moderns. There can, however, be but little doubt that they are different accounts of the same animal.

[22] The whole, nearly, of this Chapter is taken from Aristotle, B. v. c. 16.

[23] Plutarch speaks of this fish, in his "Treatise on the Instincts of Animals;" also Oppian, Halieut. B. ii. l. 62. The Raia torpedo of Linnæus, Cuvier says, has on each side of the body a galvanic organ, which produces an electric shock, similar to that communicated by the use of the Leyden vial. By this means it baffles its enemies, and drives them away; or else, having stupefied them, devours them at its leisure.

the mud, it awaits the approach of the fish, and, at the moment that they are swimming above in supposed security, communicates the shock, and instantly darts upon them: there is no delicate[24] morsel in existence that is preferred to the liver of this fish. And no less wonderful, too, is the shrewdness[25] manifested by the sea-frog,[26] which is known by us as the "fisher." Stirring up the mud, it protrudes from the surface two little horns, which project from beneath the eyes, and so attracts the small fish which are sporting around it, until at last they approach so close that it is able to seize them. In a similar manner, too, the squatina and the rhombus[27] conceal themselves, but extend their fins, which, as they move to and fro, resemble little worms; the ray also does the same. The pastinaca,[28] too, lies lurking in ambush, and pierces the fish as they pass with the sting with which it is armed. Another proof of instinctive shrewdness is the fact, that although the ray is the very slowest of all the fish in its movements, it is found with the mullet in its belly, which is the swiftest of them all.

(43.) The scolopendra,[29] which bears a strong resemblance[30]

[24] Cuvier confirms this statement. The liver of the torpedo, he says, is very delicate eating, as, indeed, is that part in most of the ray genus.

[25] Oppian, Halieut. B. ii. l. 86; Ælian, Hist. Anim. B. ix. c. 24; and Cicero, De Nat. Deor. make mention of this.

[26] The Lophius piscatorius of Linnæus, the baudroie of the French. This is a fish, Cuvier says, with a large wide mouth, and having upon the top of the head moveable filaments, surmounted by a sort of membranous lashes. It seems that it is the fact that it buries itself in the sand, and then employs the artifice here mentioned by Pliny, for the purpose of attracting the fish that serve as its food.

[27] Or turbot. This fish, the Pleuronectes maximus of Linnæus, and the Squalus squatina of Linnæus, presents no sufficiently distinct filaments at the extremity of the fins to justify what Pliny says. But the word "rhombus," Cuvier says, which ordinarily means the common turbot, here means the psetta of the Greeks, the Pleuronectes rhombus of Linnæus, which has the anterior radii of the dorsal fin separated, and forming small filaments. For an account of the psetta, see c. 24, p. 396.

[28] The sting-ray, the Raia pastinaca of Linnæus. This fish, Cuvier says, has upon the tail a pointed spine, compressed and notched like a saw, which forms a most dangerous weapon. It is again mentioned in c. 72 of the present Book, under its Greek name of "trigon."

[29] Aristotle, Hist. Anim. B. ii. c. 17, and B. ix. c. 51; Oppian, Halieut. B. ii. l. 424; and Ælian, Hist. Anim. B. vii. c. 35, make a similar statement as to the scolopendra.

[30] The animal, Cuvier says, which is here mentioned as the scolopendra,

to the land insect which we call a centipede, if it chances to swallow a hook, will vomit forth all its intestines, until it has disengaged itself, after which it will suck them in again. The sea-fox[31] too, when exposed to a similar peril, goes on swallowing the line until it meets with a weak part of it, and then with its teeth snaps it asunder with the greatest ease. The fish called the glanis[32] is more cautious; it bites at the hooks from behind, and does not swallow them, but only strips them of the bait.

(44.) The sea-ram[33] commits its ravages just like a wary robber; at one time it will lurk in the shadow of some large vessel that is lying out at sea, and wait for any one who may be tempted to swim; while at another, it will raise its head from the surface of the water, survey the fishermen's boats, and then slily swim towards them and sink them.

CHAP. 68. (45.)—BODIES WHICH HAVE A THIRD NATURE, THAT OF THE ANIMAL AND VEGETABLE COMBINED—THE SEA-NETTLE.

Indeed, for my own part, I am strongly of opinion that there is sense existing in those bodies which have the nature[34] of neither animals nor vegetables, but a third which partakes of them both:—sea-nettles and sponges, I mean. The sea-nettle[35] wanders to and fro by night, and at night changes its locality. These creatures are by nature a sort of fleshy branch,[36] and are nurtured upon flesh. They have the power of producing an

is in reality of the class of worms that have red blood, or annelides, such, for instance, as the Nereides of larger size. These having on the sides tentacles, which bear a strong resemblance to feet, and sharp jaws, might, he says, be very easily taken for scolopendræ. They have also a fleshy trunk, often very voluminous, and so flexible that it can be extended or withdrawn, according to the necessities of the animal. It is this trunk, Cuvier thinks, that gave occasion to the story that it could disgorge its entrails, and then swallow them again.

[31] This fish, Cuvier says, was doubtless a species of squalus; which have the power, in consequence of the sharpness of their saw-like teeth, of cutting a line with the greatest ease. It is mentioned by Aristotle, B. ix. c. 52; Ælian, Var. Hist. B. i. c. 43; and Oppian, Halieut. B. iii. l. 144.

[32] The fish that has been previously mentioned in c. 17 of this Book, under the name of silurus.

[33] "Aries." The Delphinus orca of Linnæus. See c. 4 of the present Book.

[34] The zoöphytes, or the zoödendra.

[35] The wandering urticæ, or sea-nettles, are the Medusæ of Linnæus, the stationary nettle is the Actinia of the same naturalist.

[36] "Carnosæ frondis his natura."

itching, smarting pain,[37] just like that caused by the nettle found on land. For the purpose of seeking its prey, it contracts and stiffens itself to the utmost possible extent, and then, as a small fish swims past, it will suddenly spread out its branches, and so seize and devour[38] it. At another time it will assume the appearance of being quite withered away, and let itself be tossed[39] to and fro by the waves like a piece of sea-weed, until it happens to touch a fish. The moment it does so, the fish goes to rub itself against a rock, to get rid of the itching; immediately upon which, the nettle pounces upon it. By night also it is on the look-out for scallops and sea-urchins. When it perceives a hand approaching it, it instantly changes its colour, and contracts itself; when touched it produces a burning sensation, and if ever so short a time is afforded, makes its escape. Its mouth is situate, it is said, at the root or lower part,[40] and the excrements[41] are discharged by a small canal situated above.

CHAP. 69.—SPONGES; THE VARIOUS KINDS OF THEM, AND WHERE THEY ARE PRODUCED: PROOFS THAT THEY ARE GIFTED WITH LIFE BY NATURE.

We find three[42] kinds of sponges mentioned; the first are

[37] Many species of the medusæ, Cuvier says, and other animals of the same class, the physalus more especially, cause an itching sensation in the skin when they are touched. This is noticed also by Ælian, Hist. Anim. B. vii. c. 35; and by Diphilus of Siphnos, in Athenæus, B. iii.

[38] This is true, Cuvier says, and more especially with reference to the actiniæ. They have the mouth provided with numerous fleshy tentacles, by means of which they can seize very small animals which come within their reach, which they instantly swallow.

[39] Cuvier says, that this is the case more especially with the medusæ and the physali.

[40] "Ora ei in radice." Aristotle, however, says, Hist. Anim. B. iv. c. 5, and B. viii. c. 3, that the sea-nettle has the mouth situate ἐν μέσῳ, "in the middle of the body." Hardouin attempts to explain the passage on the ground that Pliny has made a mistake, in an endeavour to suit his similitude of a tree to the language of Aristotle. Cuvier says, that there exists one genus or species of the medusæ, which appears to feed itself by the aid of an apparatus of branches, and is divided into such a multitude of filaments, almost innumerable, that it bears a strong resemblance to the roots of a tree or vegetable. It is this kind, he says, that he has called by the name of "Rhizostomos."

[41] Aristotle, Hist. Anim. B. viii. c. 3, says the same; though, on the other hand, in the Fourth Book, he says that the animal has no excrements, although it has a mouth, and feeds.

[42] Cuvier remarks, that there are a great many more than three kinds

thick, very hard, and rough, and are called "tragi:"[43] the second, are thick, and much softer, and are called "mani;"[44] of the third, being fine and of a closer texture, tents for sores are made; this last is known as "Achillium."[45] All of these sponges grow on rocks, and feed upon[46] shell- and other fish, and slime. It would appear that these creatures, too, have some intelligence; for as soon as ever they feel[47] the hand about to tear them off, they contract themselves, and are separated with much greater difficulty: they do the same also when the waves buffet them to and fro. The small shells that are found in them, clearly show that they live upon food: about Torone[48] it is even said that they will survive after they have been detached, and that they grow again from the roots

of sponges, but that Pliny here is only enumerating those which were employed for domestic use.

[43] In the singular, "tragus," from the Greek τραγὸς, a goat, on account of their strong smell, which they contract from the mud and slime in which they are found.

[44] Probably from the Greek μάνος, "rare," "in small quantities;" in allusion to the comparative rarity of this kind of sponge.

[45] A term merely used, as Cælius Rhodiginus says, to denote the strength of its texture.

[46] Cuvier says, that though sometimes shells and small animals are found lodged in the sponge, they do not afford it any nourishment. Having no mouth, it can only live and increase by the inhalation of substances dissolved in the water of the sea.

[47] "Sensere." Cuvier says, that many observers have stated that this is the only sign of animal life that the sponge affords; but that Grant assures us that it does not even afford that. The fact is, however, that "the sponge itself is a cellular, fibrous tissue, produced by small animals, almost imperceptible, called polypi, and living in the sea. This tissue is said to be covered in its native state with a sort of semifluid thin coat of animal jelly, susceptible of a slight contraction or trembling on being touched; which, in fact, is the only symptom of vitality displayed by the sponge. After death, this gelatinous substance disappears, and leaves only the skeleton or sponge, formed by the combination of a multitude of small capillary tubes, capable of receiving water in the interior, and of becoming thereby distended. Though different in their nature, sponges are analogous in their formation to coral. On being examined with a power of about 500 linear, the fleshy matter of the living sponge is to be distinctly observed, having in its interior gemmæ, which are considered to be the young. These are occasionally given off from the mass of living matter. The greater portion of the mass of sponge consists of small cylindrical threads or fibres, varying in size. The spiculæ are not found within these, but in the large and flattened fibres, and varying in number from one to three or more, imbedded in their substance." *From Brande's Dictionary.*

[48] See B. iv. c. 17.

which have been left adhering to the rock. They leave a colour similar to that of blood upon the rock from which they have been detached, and those more especially which are produced in the Syrtes of Africa.[49]

The manos is the one that grows to the largest size, but the softest of all are those found in the vicinity of Lycia. Where the sea is deep and calm, they are more particularly soft, while those which are found in the Hellespont are rough, and those in the vicinity of Malea coarse.[50] When lying in places exposed to the sun, they become putrid: hence it is that those which are found in deep water are the best. While they are alive, they are of the same blackish colour that they are when saturated with water. They adhere to the rock not by one part only, nor yet by the whole body: and within them there are a number of empty tubes, generally four or five in number, by means of which, it is thought, they take their food. There are other tubes also, but these are closed at the upper extremity; and a sort of membrane is supposed to be spread beneath the roots by which they adhere. It is well known that sponges are very long-lived. The most inferior kind of all are those which are called "aplysiæ,"[51] because it is impossible to clean them: these have large tubes, while the other parts of them are thick and coarse.

CHAP. 70. (46.)—DOG-FISH.[52]

Vast numbers of dog-fish infest the seas in the vicinity of the sponges, to the great peril of those who dive for them. These persons say that a sort of dense cloud gradually thickens over their[53] heads, bearing the resemblance of some kind of

[49] This, to the end of the Chapter, is almost verbatim from Aristotle, Hist. Anim. B. iv. c. 17.

[50] See B. iv. cc. 8, 10.

[51] Ἀπλυσίαι, from ἀ, "not," and πλύνω, "to wash." These aplysiæ or halcyones, Cuvier says, are a kind of sponge, of too thick and compact a nature to admit of their being washed. It is arbitrarily, he says, that Linnæus has applied this name to a species of the molluscæ, which is, in reality, the sea-hare of the ancients.

[52] It is pretty clear that under the name of "canicula," "dog-fish," or "canis marinus," "sea-dog," Pliny includes the whole genus of sharks.

[53] Rondelet and Dalechamps absolutely interpret this passage as though it were the dog-fish and flat-fish over whose eyes this cloud comes, and the latter proceeds to describe it as a malady which hinders the fish from taking its own part in the combat. Hardouin, however, detects this

animal like a flat-fish,[54] and that, pressing downward upon them, it prevents them from returning to the surface. It is for this reason that they carry stilettos with them,[55] which are very sharp at the point, and attached to them by strings; for if they did not pierce the object with the help of these, it could not be got rid of. This, however, is entirely the result, in my opinion, of the darkness and their own fears; for no person has ever yet been able to find, among living creatures, the fish-cloud or the fish-fog, the name which they give to this enemy of theirs.

The divers, however, have terrible combats with the dog-fish, which attack with avidity the groin, the heels, and all the whiter parts of the body. The only means of ensuring safety, is to go boldly to meet them, and so, by taking the initiative, strike them with alarm: for, in fact, this animal is just as frightened at man, as man is at it; and they are on quite an equal footing when beneath the water. But the moment the diver has reached the surface, the danger is much more imminent; for he loses the power of boldly meeting his adversary while he is endeavouring to make his way out of the water, and his only chance of safety is in his companions, who draw him along by a cord that is fastened under his shoulders. While he is engaging with the enemy, he keeps pulling this cord with his left hand, according as there may be any sign of immediate peril, while with the right he wields the stiletto, which he is using in his defence. At first they draw him along at a moderate pace, but as soon as ever they have got him close to the ship, if they do not whip him out in an instant, with the greatest possible celerity, they see him snapped asunder; and many a time, too, the diver, even when already drawn out, is dragged from their hands, through neglecting to aid the efforts of those who are assisting him, by rolling up his body in the shape of a ball. The others, it is true, are in the mean-time brandishing their pronged fish-spears; but the monster has the craftiness to place himself beneath the ship, and so

absurdity, and justly reprehends it; though it must be confessed that there is some obscurity in the passage, arising from the way in which it is worded.

[54] Cuvier thinks it not improbable that it may have been some of the large rays that were seen by the divers, and more especially, the largest of them all, the Cephalopterus.

[55] "Stilos."

wage the warfare in safety. Consequently, every possible care is taked by the divers to look out[56] for the approach of this enemy.

(47.) It is the surest sign of safety to see flat-fish, which never frequent the spots where these noxious monsters are found: and it is for this reason that the divers[57] call them sacred.

CHAP. 71.—FISHES WHICH ARE ENCLOSED IN A STONY SHELL—SEA ANIMALS WHICH HAVE NO SENSATION—OTHER ANIMALS WHICH LIVE IN THE MUD.

Those animals, however, it must be admitted, which lie enclosed in a stony shell, have no sensation whatever—such as the oyster,[58] for instance. Many, again, have the same nature as vegetables; such as the holothuria,[59] the pulmones,[60] and the sea-stars.[61] Indeed, I may say that there is no land produc-

[56] Cælius Rhodigonus, B. xxv. c. 16, states that the divers for sponges were in the habit of pouring forth oil at the bottom of the sea, for the purpose of increasing the light there; and Pliny states the same in B. ii. c. 106.

[57] Cuvier says, that the name of "sacred fish" has been given to several fish of very different character; such as the anthias, or aulopias of Aristotle, B. ix. c. 37, the pompilus and the dolphin (Athenæus, B. vii.), because it was thought that their presence was a guarantee against the vicinity of dangerous fish. The authors, however, that were consulted by Pliny, seem to have given this name to the flat-fish, the Pleuronectes of Linnæus; and in fact, unprovided as they are with any means of defence, their presence is not unlikely to prove, in a very great degree, the absence of the voracious class of fishes.

[58] It is singular that Pliny, after his numerous stories as to the sensitiveness of numerous bivalves, should make this statement in reference to the oyster; for, on the contrary, as Cuvier says, the oyster, in common with the other bivalves, is extremely sensitive to the touch.

[59] Cuvier says, that the different zoöphytes, the sea-star, at least, are far from having the life of vegetables only; for that they are real animals, which have the sense of touch, a voluntary power of motion more or less complete, and seize and devour their prey. It is not, however, very well known, he says, what was the "holothurium" of the ancients. Aristotle, Hist. Anim. B. i. c. 1, ranks it, as well as the oyster, among the animals which, without being attached to any object, have not the faculty of moving; and in his work, De Part. Anim. B. iv. c. 5, he adds, that the holothurium and the pulmo only differ from the sponge in being detached. Cuvier is of opinion, however, that they both belong to the halcyones, the round kinds of which easily detach themselves from the places upon which they have grown.

[60] Pulmo, "the sea-lungs."

[61] Or, as we call it, the star-fish.

tion which has not its like in the sea ;[62] no, not even those insects which frequent our public-houses[63] in summer, and are so troublesome with their nimble leaps, nor yet those which more especially make the human hair their place of refuge; for these are often drawn up in a mass [64] collected around the bait. This, too, is supposed to be the reason why the sleep of fish is sometimes so troubled in the night. Upon some fish, indeed, these animals breed [65] as parasites: among these, we find the fish known as the chalcis.[66]

CHAP. 72. (48.)—VENOMOUS SEA-ANIMALS.

Nor yet are dire and venomous substances found wanting in the sea: such, for instance, as the sea-hare [67] of the Indian seas,

[62] "Adeoque nihil non gignitur in mari."

[63] "Cauponarum." "Caupona" had two significations; that of an inn where travellers obtained food and lodging, and that of a shop where wine and ready-dressed meat were sold. A lower kind of inn was the popina, which was principally frequented by the slaves and lower classes, and was mostly used as a brothel as well.

[64] He alludes to various kinds of sea-animals, called sea-lice and sea-fleas. Cuvier says, that there are some crustacea which have been called sea-fleas and sea-lice, some of which kinds are parasites, and are attached to various fishes and cetacea. Thus, he says, a pycnogonum is commonly named "pediculus balænæ," or the "whale-louse;" one of the calygæ is called the "fish-flea," another the "mackerel-flea." The name of sea-flea, he observes, has been given more especially to a very diminutive kind of shrimp, in consequence of its power of leaping from place to place.

[65] Aristotle says, that the chalcis is greatly tormented by sea-fleas, which attach themselves to its gills. Cuvier remarks, that a great number of fish are subject to have the gills attacked by parasitical animals of the genus Lernæa or that of the monoculi of Linnæus, which have been divided into many classes since. They have nothing in common, he says, with the land-flea, except the name and the property of living at the expense of other animals.

[66] The ancients, Cuvier says, speak of their chalcis as being of a similar nature to the thryssa and the sardine (Athenæus, B. vii.), gregarious fishes, which live both in the sea and in fresh water, and the flesh of which was salted. Hence he concludes that it was the same as the Clupea ficta of Lacepède, the "finte" of the French, and the agone of Lombardy, which unites all these characteristics, and is sometimes called the "sardine" of the Lago di Garda.

[67] It is mentioned again in B. xxiii. c. 3. Cuvier says, that the sea-hare of the ancients is the mollusc to which Linnæus has injudiciously given the name of aplysia, which Pliny gives to certain of the sponge genus, and to which nomenclature of Linnæus the modern naturalists have assented. (See N. 51, p. 456.) Its tentacles and its muzzle, he says, resemble

which is even poisonous by the very touch, and immediately produces vomiting and disarrangement of the stomach. In our seas it has the appearance of a shapeless mass, and only resembles the hare in colour; in India it resembles it in its larger size, and in its hair, which is only somewhat coarser: there it is never taken alive. An equally deadly animal is the sea-spider,[68] which is especially dangerous for a sting which it has on the back: but there is nothing that is more to be dreaded than the sting which protrudes from the tail of the trygon,[70] by our people known as the pastinaca, a weapon five inches in length. Fixing this in the root of a tree, the fish is able to kill it; it can pierce armour too, just as though with an arrow, and to the strength of iron it adds all the corrosive qualities of poison.

CHAP. 73. (49.)—THE MALADIES OF FISHES.

We do not find it stated that all kinds of fishes are subject to epizoötic diseases,[71] like other animals of a wild nature:

the muzzle and ears of the hare, closely enough to have caused this appellation. As its smell is disagreeable, and its figure repulsive, a multitude of marvellous, and indeed fatal qualities, he says, have been ascribed to this animal, which fishermen still speak of, but which, nevertheless, are not confirmed by actual experience. The only true fact that can be alleged against it is, that it secretes from an organ, situate in its body, a kind of acrid liquid. As to the Indian sea-hare, the body of which was covered with hair, Cuvier professes himself quite at a loss to know what it might be; but he thinks that this name must have been given to some tetrodon, which may have received the name from the cleft in the jaw and the skin, bristling with fine and minute spines. The sailors, he says, attribute to the tetrodon certain venomous properties.

[68] Cuvier says, that there is reason to believe that this is the same as the vive of the French (probably our weever), the Trachinus draco of Linnæus. This creature, with the spiny projections of its first dorsal fin, is able to inflict wounds that are extremely difficult to cure; not because they are venomous in any degree, but because the extremities being very minute, sharp, and pointed, penetrate deep into the flesh. See c. 43 of this Book.

[70] Or sting-ray, mentioned in c. 40 and c. 67 of this Book; so called from the Greek τρυγών. Cuvier says, that this sting, or spine, is sharp, like a saw; and that when it has penetrated the flesh, it cannot be got out without enlarging the wound. This it is, and not its fancied poisonous qualities, that renders its wound so dangerous; and as for its action upon trees and iron, they are entirely fabulous.

[71] Νοσήματα λοιμώδη, as Aristotle, Hist. Anim. B. viii. c. 25, calls them.

but it is evidently the fact that individuals[72] among them are attacked by maladies, from the emaciated appearance that many present, while at the same moment others of the same species are taken quite remarkable for their fatness.

CHAP. 74. (50.)—THE GENERATION OF FISHES.

The curiosity and wonder which have been excited in mankind by this subject, will not allow me any longer to defer giving an account of the generation of these animals. Fishes couple by rubbing their bellies[73] against one another; an operation, however, that is performed with such extraordinary celerity as to escape the sight. Dolphins[74] also, and other animals of the cetaceous kind, couple in a similar manner, though the time occupied in so doing is somewhat longer. The female fish, at the season for coupling, follows the male, and strikes against its belly with its muzzle; while the male in its turn, when the female is about to spawn, follows it and devours[75] the eggs. But with them, the simple act of coupling is not sufficient[76] for the purposes of reproduction; it is necessary for the male to pass among the eggs which the female has produced, in order to sprinkle them with its vitalizing fluid. This does not, however, reach all the eggs out of so vast a multitude; indeed, if it did, the seas and lakes would soon be filled, seeing that each female produces these eggs in quantities innumerable.[77]

[72] Cuvier says, that there are some maladies by which individuals are attacked; but that it is not uncommonly the case that certain species are attacked universally, as it were, by a sort of epidemic. There was an instance of this, he says, in the lake of the valley of Montmorency, where numbers of the fish were suddenly to be seen floating dead on the surface, the skin of which was covered with red spots, while at the same time their flesh had become disagreeable to the taste, and unwholesome.

[73] Cuvier says, that this is not the case in general; but that some, more especially those which are viviparous, actually do couple; while, on the other hand, in most, the male does nothing else but besprinkle with the milt the eggs which the female has deposited, as is stated by Pliny a little further on.

[74] These belong to the cetacea; which, as Cuvier says, are now universally placed among the mammifera, and not among the fishes. They couple, he says, in the same manner as quadrupeds do in general.

[75] As Aristotle says, "from those that are left the fishes are produced."

[76] Aristotle, *Hist. Anim.* B. vi. c. 12.

[77] It has been calculated, Cuvier says, that a female cod, or sturgeon, produces in a year more than one hundred thousand eggs.

(51.) The eggs [78] of fishes grow in the sea; some of them with the greatest rapidity, those of the murænа, for instance; others, again, somewhat more slowly. Those among the flat fishes,[79] whose tails or stings are not in the way, as well as those of the turtle kind, couple the one upon the other: the polypus by attaching one of its feelers to the nostrils[80] of the female, the sæpia and loligo, by means of the tongue; uniting the arms, they then swim contrary ways; these last also bring forth at the mouth. The polypi,[81] however, couple with the head downwards towards the ground, while the rest of the soft[82] fish couple backwards in the same manner as the dog; cray-fish and shrimps do the same, and crabs employ the mouth.

Frogs leap the one upon the other, the male with its fore-feet clasping the armpits of the female, and with its hinder ones the haunches. The female produces tiny pieces of black flesh, which are known by the name of gyrini,[83] and are only

[78] Cuvier says, that the eggs of the common fishes, of toads, frogs, &c., have no shells, but only a membranous tunic; and when they have been once fecundated, they imbibe the surrounding moisture, and increase till they produce the animal.

[79] It is probable, Cuvier thinks, that this passage relates more especially to the ray genus, but that there is no very positive knowledge as to the mode in which they do couple. It is probable, he suggests, that they may do it in the manner above mentioned, by the attrition of the belly. As to the turtle genus, he says, it is certain that the male mounts the back of the female; and in some species the sternum of the male is concave, the better to adapt itself to the convex callipash of the female.

[80] More properly, the physeter, passage, or orifice.

[81] Cuvier remarks, that this account of the coupling of the cephalopodes is taken from Aristotle. He says, that he is not aware whether modern observation has confirmed these statements, and almost doubts whether, considering the organization of these animals, it is not almost more probable that they do not couple at all, and that the male, as in the case of most other fishes, only fecundates the eggs after they have been deposited by the female.

[82] Cuvier says, that whatever may be the sense in which the word "mollia" is here taken, the assertion is not correct. The gasteropod molluscs, he says, whether hermaphroditical, or whether of separate sexes, couple side to side. The acephalous molluscs do not couple at all, and each individual fecundates its own eggs. The crustacea couple by attrition of the belly.

[83] "Tadpoles." There is both truth and falsehood, Cuvier says, in the statements here made relative to the tadpole. Frogs, he says, produce eggs, from which the tadpole developes itself, with a tail like that of a fish. The feet, however, are not produced by any bifurcation of the tail, but

to be distinguished by the eyes and tail; very soon, however, the feet are developed, and the tail, becoming bifurcate, forms the hind legs. It is a most singular thing, but, after a life of six months' duration, frogs melt away[84] into slime, though no one ever sees how it is done; after which they come to life again in the water during the spring, just as they were[85] before. This is effected by some occult operation of Nature, and happens regularly every year.

Mussels, also, and scallops are produced in the sand by the spontaneous[86] operations of nature. Those which have a harder shell, such as the murex and the purple, are formed from a viscous fluid like saliva, just as gnats are produced from liquids turned sour,[87] and the fish called the apua,[87*] from the foam of the sea when warm, after the fall of a shower.

Those fish, again, which are covered with a stony coat, such as the oyster, are produced from mud in a putrid state, or else from the foam that has collected around ships which have been lying for a long time in the same position, about posts driven into the earth, and more especially around logs of wood.[88] It has been discovered, of late years, in the oyster-beds,[89] that

shoot out at the base of the tail, and in the same proportion that they grow, the tail decreases, till at last it entirely disappears.

[84] Frogs, Cuvier says, conceal themselves in mud and slime during the winter, but, of course, are not changed into it.

[85] "Quæ fuere." Just in the same state, he probably means to say, in which they were when they were melted into slime, and not as they were when in the tadpole state.

[86] All that is asserted here, Cuvier says, about the spontaneous operations of nature is totally false. Everything connected with the eggs and the generation of the mussel, the murex, and the scallop is now clearly ascertained.

[87] "Acescente humore." Hardouin has suggested that the proper reading may be "arescente humore"—"from moisture dried up;" for, he remarks, Aristotle, in his Hist. Anim. B. v. c. 18, states, that the "empides," gnats formed from the ascarides in the slime of wells, are more frequently produced in the autumn season.

[87*] The apuæ, or aphyæ, Cuvier says, are nothing else but the fry of fish of a large kind.

[88] Cuvier says, that some of the shell-fish deposit their eggs upon stakes and piles, which are driven down into the water among sea-weed, and the bottoms of old ships: but that many of them perish from the solutions formed by those bodies in a state of rottenness, or, at all events, are not produced from their decomposition.

[89] "Ostreariis." This was unknown to Aristotle, who, in his work De Gener. Anim. B. iii. c. 11, expressly denies that the oyster secretes any generative or fecundating liquid.

the animal discharges an impregnating liquid,[90] which has the appearance of milk. Eels, again, rub themselves against rocks, upon which, the particles[91] which they thus scrape from off their bodies come to life, such being their only means of reproduction. The various kinds of fishes do not couple out of their own kind, with the exception of the squatina and the ray.[92] The fish that is produced from the union of these two, resembles a ray in the fore part, and bears a name among the Greeks compounded of the two.[93]

Certain animals are produced only at certain seasons of the year, both in water and on the land, such, for instance, as scallops, snails, and leeches, in the spring, which also disappear at stated periods. Among fishes, the wolf-fish[94] and the trichias[95] bring forth twice in the year, as also do all kinds of rock-fish; the mullet and the chalcis[96] thrice in the year, the cyprinus[97] six times, the scorpæna[98] twice, and the sargus in spring and autumn. Among the flat-fish, the squatina brings forth twice

[90] Cuvier says, that at the time of the oyster spawning, its body appears swollen in some parts with a milky fluid, which is not improbably the fecundating fluid. During this season the oyster is generally looked upon as unfit for food; among us, from the beginning of May to the end of July.

[91] This, Cuvier remarks, is a mere vague hypothesis, as to the reproduction of the eel, without the slightest foundation. Pliny borrows it from Aristotle, Hist. Anim. B. vi. c. 9.

[92] The squatina and the ray do not interbreed, Cuvier observes, any more than other fish; and the Squatina raia, or rhinobatis, (which was said to be their joint production), is a particular species, more flat in form than the squalus, and longer than the ray.

[93] 'Ρινόβατος, "the squatinoraia."

[94] "Lupus." The Perca labrax of Linnæus; see c. 28 of the present Book.

[95] The sardine. See c. 20 of the present Book.

[96] See c. 71 of the present Book.

[97] This name, Cuvier says, appears so rarely in the ancient writers, that it is difficult to ascertain its exact signification. The moderns, he says, have pretty generally agreed to give it to the carp, but without any good and sufficient foundation. It was a lake or river fish, which, as Aristotle says, Hist. Anim. B. vi. c. 14, deposited its eggs five or six times in the year, and which had a palate so fleshy, that it might almost be mistaken for a tongue, B. iv. c. 8, characteristics that appear well suited to the carp. But then, on the other hand, Oppian mentions it, Halieut. B. i., as a shore fish, implying apparently that it belonged to the sea; and Pliny himself, in c. 25 of the present Book, does the same, by his words, "hoc et in mari accidere cyprino." The words "in mari," however, he has added, of his own accord, to the account which he has derived from Aristotle.

[98] The fish called the sea-scorpion. Aristotle, Hist. Anim. B. v. c. 11.

a year, being the only[99] one that does so at the setting of the[1] Vergiliæ in autumn. Most fish spawn in the three months of April, May, and June. The salpa brings forth in the autumn, the sargus, the torpedo, and the squalus[2] about the time of the autumnal equinox. The soft fishes[3] bring forth in spring, the sæpia every month in the year; its eggs adhere together with a kind of black glutinous substance, in appearance like a bunch of grapes, and the male is very careful to go among them and breathe[4] upon them, as otherwise they would be barren. The polypi couple in winter, and produce eggs in the spring twisted in spiral clusters, in a similar manner to the tendrils of the vine; and so remarkably prolific are they, that when the animal is killed in a state of pregnancy, the cavities of the head are quite unable to contain the multitude[5] of eggs enclosed therein. They bring forth these eggs at the fiftieth day, but in consequence of the vast number of them, great multitudes perish. Cray-fish, and other sea-animals with a thinner crust, lay their eggs one upon the other, and then sit upon them. The female polypus sometimes sits upon its eggs, and at other times closes the entrance of its retreat by spreading out its feelers, interlaced like a net. The sæpia brings forth on dry land, among reeds or such sea-weed as it may find growing there, and hatches its eggs on the fifteenth day. The loligo produces its eggs out at sea, clustered together like those of the sæpia. The purple,[6] the murex, and other fishes of the same kind, bring forth in the spring. Sea-urchins have their eggs at full moon during the winter; sea-snails[7] also are produced during the winter season.

CHAP. 75.—FISHES WHICH ARE BOTH OVIPAROUS AND VIVIPAROUS.

The torpedo is known to have as many as eighty young

[99] "Sola autumno, occasu Vergiliarum." It seems questionable whether the reading should not be "solea:" "the sole in autumn, at the setting of the Vergiliæ."

[1] The Pleiades.

[2] See c. 40 of the present Book.

[3] Aristotle, Hist. Anim. B. v. c. 11.

[4] "Prosequitur afflatu." Aristotle says that it pours over them its ink or atramentum, *καταφυσᾷ τὸν θόλον*.

[5] Philostratus, Hist. B. v. c. 17, says that so full is it of eggs, that after it is dead they will more than fill a vessel far larger than the cavities of its head.

[6] Aristotle, Hist. Anim. B. v. c. 14.

[7] Our periwinkles.

ones. It produces within itself[8] very soft eggs, which it then transfers to another place in the uterus, and from that part ejects them. The same is the case with all those fish to which we have given the name of cartilaginous; hence it is, that these alone of all the fishes are at once viviparous and oviparous. The male silurus[9] is the only fish among them all that watches the eggs after they are brought forth, often for as long a period as fifty days, that they may not be devoured by other fish. The females of other kinds bring forth their eggs in the course of three days, if the male has only touched them.

CHAP. 76.—FISHES THE BELLY OF WHICH OPENS IN SPAWNING, AND THEN CLOSES AGAIN.

The sea-needle,[10] or the belone, is the only fish in which the multitude of its eggs, in spawning, causes the belly to open asunder; but immediately after it has brought forth, the wound heals again: a thing which, it is said, is the case with the blind-worm as well. The sea-mouse[11] digs a hole in the earth, deposits its eggs there, and then covers them up. On the thirtieth day it opens the hole, and leads its young to the water.

CHAP. 77. (52.)—FISHES WHICH HAVE A WOMB; THOSE WHICH IMPREGNATE THEMSELVES.

The fishes called the erythinus[12] and the channe[13] are said to

[8] All the chondropterygian fishes, Cuvier says, have, in addition to their ovaries, real oviducts, which the ordinary fishes have not; the lower part of which, being detached, acts as the uterus, into which the eggs descend when they have gained their proper size: and it is here that the young ones burst forth from the egg, when the parent animal is viviparous.

[9] Aristotle, Hist. Anim. B. vi. c. 13, says the same of the glanis, or silurus.

[10] The Syngnathus acus of Linnæus. This fish, Cuvier says, and in general all of the same genus, has a channel situate under the tail, which is opened by two moveable valves. In this they deposit their eggs at the moment of excluding them. After this, the valves open, to give a passage to the eggs, or the young enclosed in them. This circumstance, he says, gave rise to the notion mentioned in the text.

[11] Mentioned in c. 35 of the present Book. Cuvier says that the sea tortoises, or turtles, to which no doubt this animal belonged, do deposit their eggs much in the way here mentioned.

[12] Both these fishes have been mentioned in c. 23 of the present Book.

[13] Pliny means to say, Cuvier says, that all these fish are to be looked

have a womb; and those which by the Greeks are called trochi,[14] it is said, impregnate themselves. The young of all aquatic animals are without sight at their birth.[15]

CHAP. 78. (53.)—THE LONGEST LIVES KNOWN AMONGST FISHES.

We have lately heard of a remarkable instance of length of life in fish. Pausilypum[16] is the name of a villa in Campania, not far from Neapolis; here, as we learn from the works of M. Annæus Seneca, a fish is known to have died sixty years after it had been placed in the preserves of Cæsar[17] by Vedius Pollio; while others of the same kind, and its equals in age, were living at the time that he wrote. This mention of fish-preserves reminds me that I ought to mention a few more particulars connected with this subject, before we leave the aquatic animals.

CHAP. 79. (54.)—THE FIRST PERSON THAT FORMED ARTIFICIAL OYSTER-BEDS.

The first person who formed artificial oyster-beds was Ser-

upon as females: and, in fact, he says, Cavelini discovered eggs and a milt in every one that he examined; so that they appear to have all the appliances of self-fecundation.

[14] Or wheel-fish: from the Greek τροχὸς, "a wheel." It is not clearly known what animal he alludes to under this name. Snails, Cuvier says, are hermaphrodites, and so is the helix, but still they require sexual connection for the purposes of reproduction. The greater part of the marine univalves, on the other hand, are of separate sexes; but the organ of the male being proportionally of great length, and coiled in part beneath its mantle, this fact may very possibly have given rise to the notion here mentioned by our author, that the animal impregnates itself.

[15] This can only be understood, Cuvier says, as applying to those animals the young of which are still enveloped in the membranes of the egg: for in general, the young of fish, from the moment of their birth, have eyes of great beauty, and are remarkable for the quickness of their sight.

[16] From the Greek παυσίλυπον, "grief-assuaging." This was the name of a splendid villa belonging to Vedius Pollio, and which he bequeathed to Augustus. It was famous for its fish preserves; and it was here probably that Pollio kept his murenæ, previously mentioned by Pliny as being fed on human flesh. The vicinity is still called Monte Posilipo.

[17] "Cæsaris piscinis." This may either mean, preserves which had their name from Cæsar, or preserves which afterwards belonged to Cæsar. The work of Seneca, in which this circumstance was mentioned, is no longer in existence.

gius Orata,[18] who established them at Baiæ, in the time of L. Crassus, the orator, just before the Marsic War. This was done by him, not for the gratification of gluttony, but of avarice, as he contrived to make a large income by this exercise of his ingenuity. He was the first, too, to invent hanging baths,[19] and after buying villas and trimming them up, he would every now and then sell them again.[20] He, too, was the first to adjudge the pre-eminence for delicacy of flavour to the oysters of Lake Lucrinus;[21] for every kind of aquatic animal is superior in one place to what it is in another. Thus, for instance, the wolf-fish of the river Tiber is the best that is caught between the two bridges,[22] and the turbot of Ravenna is the most esteemed, the murena of Sicily, the elops of Rhodes; the same, too, as to the other kinds, not to go through all the items of the culinary catalogue. The British[23] shores had not as yet sent their supplies, at the time when Orata thus ennobled the Lucrine oysters: at a later period, however, it was thought worth while to fetch oysters all the way from Brundisium, at the very extremity of Italy; and in order that there might exist no rivalry[24] between the two flavours, a plan has been

[18] He was a contemporary of L. Crassus, and was distinguished for his great wealth, and his love of luxury and refinement, but possessed an unblemished character. His surname, Orata or Aurata, was given to him, it is said, because he was remarkably fond of gold-fish—auratæ pisces—though, according to other authorities, it was because he was in the habit of wearing two very large gold rings.

[19] "Pensiles balineas." This expression has been differently rendered by various commentators, but it is now generally supposed to refer to the manner in which the flooring of the bathing rooms was suspended over the hollow cells of the hypocaust or heating furnace. This is called by Vitruvius, "Suspensura caldariorum."

[20] "Ita mangonicatas villas subinde vendendo"—By the use of the word "ita," Pliny may possibly mean that he was in the habit of filling up the villas with the "balineæ pensiles," which he had invented. "Mangonizo" was to set off or trim up a thing, that it might sell again all the better.

[21] Varro speaks of those of Tarentum, as being the best. The Greeks preferred the oysters of Abydos; the Romans, under the empire, those of Britain.

[22] It does not appear to be known what two bridges are here alluded to; the Sublician, or wooden bridge, was probably one of them, and, perhaps, the Palatine bridge was the other. The former was built by Ancus Martius.

[23] For some further account of the British oyster, see B. xxxii. c. 21.

[24] See B. xxxii. c. 21.

more recently hit upon, of feeding the oysters of Brundisium in Lake Lucrinus, famished as they must naturally be after so long a journey.

CHAP. 80.—WHO WAS THE FIRST INVENTOR OF PRESERVES FOR OTHER FISH.

In the same age, also, Licinius Murena[25] was the first to form preserves for other fish; and his example was soon followed by the noble families of the Philippi and the Hortensii. Lucullus had a mountain pierced near Naples, at a greater outlay even, than that which had been expended on his villa: and here he formed a channel,[26] and admitted the sea to his preserves; it was for this reason that Pompeius Magnus gave him the name of "Xerxes in a toga."[27] After his death, the fish in his preserves was sold for the sum of four million sesterces.

CHAP. 81. (55.)—WHO INVENTED PRESERVES FOR MURENÆ.

C. Hirrus[28] was the first person who formed preserves for the murena; and it was he who lent six thousand of these fishes for the triumphal banquets of Cæsar the Dictator; on which occasion he had them duly weighed, as he declined to receive the value of them in money or any other commodity. His villa, which was of a very humble character in the interior, sold for four millions[29] of sesterces, in consequence of the valuable nature of the stock-ponds there. Next after this, there arose a passion for individual fish. At Bauli,[30] in the territory

[25] He was the first of this family, a branch of the Licinian gens, who bore the surname of Murena, from his love for that fish, it was said. He, like his father P. Licinius, attained the rank of prætor, and was a contemporary of the orator, L. Crassus.

[26] "Euripum."

[27] "Xerxen togatum," or "the Roman Xerxes," in allusion to Xerxes cutting a canal through the Isthmus, which connected the Peninsula of Mount Athos with Chalcidice. See B. iv. c. 17, and the Note, vol. i. p. 300.

[28] Probably the same person as the C. Hirrius Posthumius, who is mentioned as a voluptuary by Cicero, De Fin. B. ii. c 22, § 70. Varro speaks of him, as expending the rent of his houses, amounting to twelve millions of sesterces, in bait for his murenæ.

[29] This is, probably, the meaning of "quadragies" here, though it has been translated 400,000.

[30] See B. iii. c. 9.

of Baiæ, the orator Hortensius had some fish-preserves, in which there was a murena to which he became so much attached, as to be supposed to have wept on hearing of its death.[31] It was at the same villa that Antonia,[32] the wife of Drusus, placed earrings upon a murena which she had become fond of; the report of which singular circumstance attracted many visitors to the place.

CHAP. 82. (56.)—WHO INVENTED PRESERVES FOR SEA-SNAILS.

Fulvius Lupinus[33] first formed preserves for sea-snails,[34] in the territory of Tarquinii, shortly before the civil war between Cæsar and Pompeius Magnus. He also carefully distinguished them by their several species, separating them from one another. The white ones were those that are produced in the district of Reate;[35] those of Illyria were remarkable for the largeness of their size; while those from Africa were the most prolific; those, however, from the Promontory of the Sun[36] were the most esteemed of all. For the purpose, also, of fattening them, he invented a mixture of boiled wine,[37] spelt-meal, and other substances; so that fattened periwinkles even became quite an object of gastronomy; and the art of breeding them was brought to such a pitch of perfection, that the shell of a single animal would hold as much as eighty quadrantes.[38] This we learn from M. Varro.

[31] Porphyry, Tzetzes, and Macrobius relate the same story.

[32] See B. vii. c. 18, and B. xxxv. c. 36. Her grandson, Caligula, is supposed to have hastened her death.

[33] Hirpinius is the more common reading. He is mentioned in B. viii. c. 78. If the reading "Lupinus" is adopted, nothing seems to be known of this epicurean trifler.

[34] Our periwinkles.

[35] See B. iii. c. 17.

[36] Off the coast of Africa, see B. v. c. 1. These periwinkles, or sea-snails, are again mentioned in B. xxx. c. 15.

[37] "Sapa." Must, or new wine, boiled down to one half, according to Pliny; and one third, according to Varro.

[38] The "quadrans" contained three cyathi, and was the fourth part of a sextarius, which consisted of about a pint and a-half; in which case the contents of one of their shells would be no less than fifteen quarts!! A statement to which no credit can be attached, unless, indeed, the sea-snail was something quite different to our periwinkle.

CHAP. 83. (57.)—LAND FISHES.

Besides these, there are still some wonderful kinds of fishes[39] which we find mentioned by Theophrastus: he says, that when the waters subside, which have been admitted for the purposes of irrigation in the vicinity of Babylon, there are certain fish which remain in such holes as may contain water; from these they come forth for the purpose of feeding, moving along with their fins by the aid of a rapid movement of the tail. If pursued, he says, they retreat to their holes, and, when they have reached them, will turn round and make a stand. The head is like that of the sea-frog, while the other parts are similar to those of the gobio,[40] and they have gills like other fish. He says also, that in the vicinity of Heraclea and Cromna,[41] and about the river Lycus, as well as in many parts of the Euxine, there is one kind of fish[42] which frequents the waters near the banks of the rivers, and makes holes for itself, in which it lives, even when the water retires and the bed of the river is dry; for which reason these fishes have to be dug out of the ground, and only show by the movement of the body that they are still alive. He says also, that in the vicinity of the same Heraclea, when the river Lycus ebbs, the eggs are left in the mud, and that the fish, on being produced from these, go forth to seek their food by means of a sort of fluttering motion,—their gills being but very small, in consequence of which they are not in need of water; for this

[39] Cuvier remarks, that nothing is known of the fish of the Euphrates here mentioned by Pliny from Theophrastus; as, indeed, all particulars relative to the fresh-water fish of foreign countries are the portion of Ichthyology with which we are the least acquainted. Judging, however, from what is stated as to their habits and appearance, they may be various species of the genus Gobius of Linnæus, and more especially the one called periophthalmus by Bloch. These species are in the habit of crawling along the grass on the banks of rivers.

[40] Generally considered the same as our gudgeon. It is called "cobio" (from the Greek κωβιὸς), by Pliny, in B. xxxii. c. 53. It was a worthless fish, "Vilis piscis," as Juvenal says.

[41] What Heraclea, if that is the correct reading, is meant here, it is impossible to say. Cromna is mentioned in B. vi. c. 2.

[42] Cuvier thinks, that Pliny here alludes to a species of loche, the Cobitis fossilis of Linnæus, which keeps itself concealed in the mud, and can survive a long time in it, after the water above it is absorbed. Hence it is often found alive in the mud of drained marshes, or in the dried-up beds of rivers.

reason it is that eels also can live so long out of water;[42*] and that their eggs come to maturity on dry land, like those of the sea-tortoise[43]. In the same regions also of the Euxine, he says, various kinds of fishes are overtaken by the ice, the gobio more particularly, and they only betray signs of life, by moving when they have warmth applied by the saucepan. All these things, however, though very remarkable, still admit of some explanation. He tells us also, that in Paphlagonia, land fishes are dug up that are most excellent eating; these, he says, are found in deep holes or spots where there is no standing water whatever, and he expresses his surprise at their being thus produced without any contact with moisture, stating it as his opinion, that there is some innate virtue in these holes,[44] similar to that of wells; as if, indeed, fishes really were to be found in wells.[45] However this may be, these facts, at all events, render the life of the mole under ground less a matter for surprise; unless, perhaps, these fishes mentioned by Theophrastus are similar in nature to the earth-worm.

CHAP. 84. (58.)—THE MICE OF THE NILE.

But all these things, singular as they are, are rendered credible by a marvel which exceeds them all, at the time of the inundation of the Nile; for, the moment that it subsides, little mice[46] are found, the first rudiments of which have been

[42*] Cuvier remarks, that many fish, the orifice of the gills of which, like those of the eel, is small, or which have in the interior of those parts organs proper for the preservation there of water, are able, like the eel, to live for some time on dry land; such, for instance, as the periophthalmi previously mentioned, the chironectes, the ophicephali, the anabas, and others; but it is difficult to say, he observes, of what species were those of the Lycus, which are here mentioned.

[43] Or turtle. See c. 12 of the present Book.

[44] It is most probable that Sillig is right in his supposition, that "quam" should be read "æquam;" otherwise it does not appear that any sense can be made of the passage. Schneider, in his commentaries upon Theophrastus, Sillig says, quite despaired of either amending or explaining this passage; which, however, with Sillig's emendation is very easily to be understood.

[45] In accordance with the opinion of Vossius and Sillig, we read here "in illis," instead of the common, and most probably incorrect, reading, "in nullis."

[46] Pomponius Mela, B. i. c. 9., and Ovid, Met. B. i. l. 422, *et seq.*, tell the same story, which, however, has no truth in it whatever.

formed by the generative powers of the waters and the earth: in one part of the body they are already alive, while in that which is of later formation, they are still composed of earth.

CHAP. 85. (59.)—HOW THE FISH CALLED THE ANTHIAS IS TAKEN.

Nor would it be right to omit what is said about the fish called anthias, and which I find is looked upon as true by most writers. I have already mentioned[47] the Chelidoniæ, certain islands off the coast of Asia; they are situate off a promontory there, in the midst of a sea full of crags and reefs. These parts are much frequented by this fish, which is very speedily taken by the employment of a single method of catching it. A fisherman pushes out in a little boat, dressed in a colour resembling that of his boat; and every day, for several days together, at the same hour, he sails over the same space, while doing which he throws a quantity of bait into the sea. Whatever is thrown from the boat is an object of suspicion to the fish, who keep at a distance from what causes them so much alarm; but after this has been repeated a considerable number of times, one of the fish, reassured by becoming habituated to the scene, at last snaps at the bait. The movements of this one are watched with the greatest care and attention, for in it are centred all the hopes of the fishermen, as it is to be the means of securing them their prey; nor, indeed, is it difficult to recognize it, seeing that for some days it is the only one that ventures to come near the bait. At last, however, it finds some others to follow its example, and by degrees it is better and better attended, till at last it brings with it shoals innumerable. The older ones, at length becoming quite accustomed to the fisherman, easily recognize him, and will even take food from his hands. Upon this, the man throws out, a little way beyond the tips of his fingers, a hook concealed in a bait, and smuggles them out one by one, rather than catches them, standing in the shadow of the boat and whipping them out of the water with a slight jerk, that the others may not perceive it; while another fisherman is ready inside to receive them upon pieces of cloth, in order that no floundering about or other noise may scare the others away. It is of importance to know

[47] B. v. c. 35.

which has been the betrayer of the others, and not to take it, otherwise the shoal will take to flight, and appear no more for the future.[48] There is a story that a fisherman, having quarrelled once with his mate, threw out a hook to one of these leading fishes, which he easily recognized, and so captured it with a malicious intent. The fish, however, was recognized in the market by the other fisherman, against whom he had conceived this malice; who accordingly brought an action against him for damages;[49] and, as Mucianus adds, he was condemned to pay them on the hearing of the case. These anthiæ, it is said, when they see one of their number taken with a hook, cut the line with the serrated spines which they have on the back, the one that is held fast stretching it out as much as it can, to enable them to cut it. But among the sargi, the fish itself, that is held fast, rubs the line asunder against the rocks.

CHAP. 86. (60.)—SEA-STARS.

In addition to what I have already stated, I find that authors, distinguished for their wisdom, express surprise at finding a star in the sea—for such, in fact, is the form of the animal, which has but very little flesh[50] within, and nothing but a hard skin without. It is said that in this fish there is such a fiery heat, that it scorches everything it meets with in the sea, and instantaneously digests its food. By what experiments[51] all this came to be known, I cannot so easily say; but I am about to make mention of one fact which is more remarkable still, and which we have the opportunity of testing by every day's experience.

[48] Oppian, Halieut. B. iii. c. 305, *et seq.*, tells a similar story as to the mode of taking the anthias, with some slight variation, however.

[49] "Damni formulam editam."

[50] Cuvier says, that the star-fish, the Asterias of Linnæus, is covered with a callous shell without, and has within only the viscera and the ovaria, apparently without any muscles. Aristotle reckons it among the fishes which he calls ὀστρακοδέρματα, or hard-shelled fish; while, on the other hand, Ælian, Hist. Anim. B. xi. c. 22, reckons it among the μαλακόστρακα, or soft-shelled fish.

[51] Cuvier says, that Pliny has good reason to say that he does not know upon what authority this power has been attributed to the star-fish; as it is altogether fabulous.

CHAP. 87. (61.)—THE MARVELLOUS PROPERTIES OF THE DACTYLUS.

Belonging also to the class of shell-fish is the dactylus,[52] a fish so called from its strong resemblance to the human nails. It is the property of these fish to shine brightly in the dark, when all other lights are removed, and the more moisture they have, the brighter is the light they emit. In the mouth even, while they are being eaten, they give forth their light, and the same too when in the hands; the very drops, in fact, that fall from them on the ground, or on the clothes, are of the same nature. Hence it is beyond a doubt, that it is a liquid that possesses this peculiar property, which, even in a solid body, would be a ground for considerable surprise.

CHAP. 88. (62.)—THE ANTIPATHIES AND SYMPATHIES THAT EXIST BETWEEN AQUATIC ANIMALS.

There are also marvellous instances to be found of antipathies and sympathies existing between them. The mullet and the wolf-fish[53] are animated with a mutual hatred; and so too, the conger and the murena gnaw each other's[54] tails. The cray-fish has so great a dread of the polypus, that if it sees it near, it expires in an instant: the conger dreads the cray-fish; while, again, the conger tears the body of the polypus. Nigidius informs us that the wolf-fish gnaws the tail of the mullet, and yet that, during certain months, they are on terms of friendship; all those, however, which thus lose their tails, survive their misfortune. On the other hand, in addition to those which we have already mentioned as going in company together, an instance of friendship is found in the balæna and the musculus,[55]

[52] "Or finger." The same fish that have been mentioned as "ungues," or "onyches," in c. 51 of the present Book. They are a multivalve shell-fish, Cuvier says, which live in hardened mud or the interior of rocks, into which they burrow cavities, from which they cannot retreat; and they can only be taken by breaking the stone. They have a flavour like pepper, and give out a phosphorescent light. See the end of c. 51.

[53] Aristotle, Hist. Anim. B. ix. c. 3. Ælian, Hist. Anim. B. v. c. 48.

[54] Aristotle says, that the tail of the conger is bitten by the murena, but not that of the murena by the conger. Hardouin suggests that Pliny may have learned this fact from the works of Nigidius Figulus.

[55] Cuvier remarks, that in another passage, B. xi. c. 62, Pliny states that the "musculus qui balænam antecedit" has no teeth, but only bristles in its mouth. Now, in B. xxxii. c. 53, he speaks of the musculus as among

for, as the eye-brows of the former are very heavy, they sometimes fall over its eyes, and quite close them by their ponderousness, upon which the musculus swims before, and points out the shallow places which are likely to prove inconvenient to its vast bulk,[56] thus serving it in the stead of eyes. We shall now have to speak of the nature of the birds.

SUMMARY.—Remarkable facts, narratives, and observations, 650.

ROMAN AUTHORS QUOTED. — Turranius Gracilis,[57] Trogus,[58] Mæcenas,[59] Alfius Flavus,[60] Cornelius Nepos,[61] Laberius the Mimographer,[62] Fabianus,[63] Fenestella,[64] Mucianus,[65] Ælius

the largest of animals; from which Cuvier concludes it to have been a species of whale, probably the "rorqual" of the Mediterranean. In confirmation of this, he thinks that the word "antecedit," in B. xi. c. 62, has not the meaning of "goes before," but "exceeds in size;" though here it is spoken of as leading the whale; and Oppian, Ælian, Plutarch, Claudian, speak of the conductor of the whale as a little fish. He is of opinion, in fine, that either Pliny or some of the authors from which he has borrowed, have made a mistake in the name, and probably given that of "musculus," which was really a large fish, to a small one, which was commonly supposed to attend on the movements of the whale.

[56] It is evident from this passage, that Pliny is speaking of a little fish here, and not one to which he would assign such bulk as is ascribed to the musculus in B. xxxii. c. 53.

[57] See end of B. iii. [58] See end of B. vii.

[59] Caius Cilnius Mecænas, or rather Mæcenas, a descendant of the kings of Etruria, and of equestrian rank. He was the favourite minister of Augustus, and the friend and patron of Horace, Virgil, and most of the more deserving among the learned of his day. He is supposed to have written two tragedies, the Prometheus and Octavia; an epic poem, and a work on Natural History, to which Pliny frequently alludes, and which seems to have related, principally, to fishes and gems. He is also thought to have written some memoirs of the life of Augustus.

[60] A rhetorician, who flourished in the reigns of Augustus and Tiberius. His school was attended by the elder Seneca, who had then recently removed to Rome from Corduba. He was regarded at Rome as a prodigy of learning, and gave lectures before he had assumed the toga virilis. He is supposed to have written poetry, and a history of the Carthaginian wars.

[61] See end of B. ii.

[62] Or "writer of Mimes." Laberius Decimus was of equestrian rank, born about B.C. 107, and died B.C. 43. Half compelled, and half induced by the offer of a reward by Cæsar, he appeared on the stage, in his old age, as an actor of mimes. A few verses, and a prologue still in existence, are attributed to him. [63] Fabianus Papirius. See end of B. ii.

[64] See end of B. viii. [65] See end of B. ii.

Stilo,[66] Statius Sebosus,[67] Melissus,[68] Seneca,[69] Cicero,[70] Æmilius Macer,[71] Messala Corvinus,[72] Trebius Niger,[73] Nigidius.[74]

FOREIGN AUTHORS QUOTED.—Aristotle,[75] King Archelaus,[76] Callimachus,[77] Democritus,[78] Theophrastus,[79] Thrasyllus,[79] Hegesidemus,[80] Cythnius,[81] Alexander Polyhistor.[82]

[66] L. Ælius Præconinus Stilo, a Roman of equestrian rank, one of the earliest grammarians, and also one of the most celebrated. He instructed Varro, and was one of Cæsar's instructors in rhetoric. He received the name of Præconinus, from the circumstance of his father having been a "præco," and that of Stilo, on account of his writings. He wrote commentaries on the songs of the Salii, and on the Twelve Tables, a work De Proloquiis, &c.

[67] See end of B. ii.

[68] See end of B. vii.

[69] L. Annæus Seneca. See end of B. vi.

[70] See end of B. vii.

[71] A poet of Verona, who died B.C. 16. He wrote a poem upon birds, snakes, and medicinal plants, in imitation, probably, of the Theriaca of Nicander. There is a work, still extant, under his name, "On the Virtues of Herbs;" which, no doubt, belongs to the middle ages. He also wrote sixteen or more Books of Annals.

[72] M. Valerius Messala Corvinus. He was born at Rome, B.C. 59. He joined the party of Cassius against Antony and Augustus, which last he defeated at the battle of Philippi. He afterwards served under Antony, and then Augustus; the centre of whose fleet he commanded at Actium. About two years before his death, which happened in the middle of the reign of Augustus, his memory failed him, and he was often unable to recollect his own name. He wrote a history, or rather, commentaries on the Civil wars after the death of Cæsar, and towards the close of his life composed a genealogical work "On the Families of Rome." He also wrote poems of a satirical, and sometimes licentious character; and works on grammar, the titles of only two of which have come down to us. He was especially famous for his eloquence.

[73] See end of B. viii.

[74] See end of B. vi.

[75] See end of B. ii.

[76] See end of B. viii.

[77] See end of B. iv.

[78] See end of B. ii.

[79] See end of B. iii.

[80] See end of B. ii.

[81] Nothing whatever is known of him.

[82] See end of B. iii.

BOOK X.

THE NATURAL HISTORY OF BIRDS.

CHAP. 1. (1.)—THE OSTRICH.

THE history of the birds[1] follows next, the very largest of which, and indeed almost approaching to the nature of quadrupeds, is the ostrich[2] of Africa or[3] Æthiopia. This bird exceeds in height a man sitting on horseback, and can surpass him in swiftness, as wings have been given to aid it in running; in other respects ostriches cannot be considered as birds, and do not raise themselves from the earth. They have cloven talons, very similar to the hoof[4] of the stag; with these they fight, and they also employ them in seizing stones for the purpose of

[1] Cuvier remarks, that the accounts given by the ancients of birds, are enveloped in greater obscurity than their information on quadrupeds, or fishes. The quadrupeds, he says, are not so numerous, and are known from their characteristics. The fishes also, which the ancients so highly esteemed as an article of food, were well known to them in general, and they have repeated occasions to speak of them: but as to the birds, the augurs were their principal informants. Pliny, in fact, often quotes their testimony; and we find, from what he says, that these men had not come to any agreement among themselves as to what were the names of divers species of birds, the movements of which announced, according to them, the success or misfortune of states equally with individuals. This portion, in fact, of the works of Pliny, Cuvier remarks, is an excellent commentary on the remark of Cicero, who, an augur himself, asked the question, how two augurs could look each other in the face without laughing. There are also several passages from Aristotle, who has, however, given but very little attention to the exterior characteristics of birds: it is only from the similarity of their habits and present names that we are able, in many cases, to guess what bird it is that is meant.

[2] "Struthiocamelus:" from the Greek, signifying a "little sparrow," and a "camel." Cuvier remarks, that Pliny's description is correct, and that he is only mistaken in a few slight particulars.

[3] Pliny perhaps here uses the conjunction "vel" in the explanatory sense of "otherwise;" intending to distinguish Æthiopian Africa from the Roman province of that name.

[4] Cuvier remarks, that there is some truth in this, so far as that the ostrich has only two toes, like the stag and other ruminating animals; but then they are unequal in size, and not covered with hoofs.

throwing[5] at those who pursue them. They have the marvellous property of being able to digest[6] every substance without distinction, but their stupidity[7] is no less remarkable; for although the rest of their body is so large, they imagine, when they have thrust their head and neck into a bush, that the whole of the body is concealed. Their eggs[8] are prized on account of their large size, and are employed as vessels for certain purposes, while the feathers of the wing and tail are used as ornaments for the crest and helmet of the warrior.

CHAP. 2. (2.)—THE PHŒNIX.

Æthiopia and India, more especially, produce[9] birds of diversified plumage, and such as quite surpass all description. In the front rank of these is the phœnix,[10] that famous bird of

[5] Father Lobo, in his account of Abyssinia, says that when the ostrich is running at great speed, it throws the stones behind with such violence, that they would almost seem to be thrown at those in pursuit.

[6] An ostrich, Cuvier says, will swallow anything, but it is by no means able to digest everything. He says, that he has seen ostriches with the stomach ruptured by nails which they have swallowed, or dreadfully torn by pieces of glass.

[7] It has been remarked by Diodorus Siculus, B. ii., that so far from displaying stupidity in acting thus, it adopts a wise precaution, its head being its most weak and defenceless part.

[8] Cuvier states that its egg is equal to twenty-four to twenty-eight fowls' eggs, and that he had frequently eaten of them, and found them very delicate.

[9] "Ferunt." With regard to this verb, Cuvier remarks, that it is equivocal; and that it is very possible that the writer intends to say, not that India and Æthiopia *produce* these marvellous birds, but that the people of those countries *report* or *relate* marvellous stories touching those birds. It is clear that he does not believe in the existence of the phœnix.

[10] Cuvier remarks, that all these relations are neither more nor less than so many absurd fables or pure allegories, but that the description given is exactly that of a bird which does exist, the golden pheasant, namely. The description given is probably taken from the pretended phœnix that Pliny mentions as having been brought to Rome in the reign of Claudius. It is not improbable, he thinks, that this may have been a golden pheasant, brought from the interior of Asia, when the pursuits of commerce had as yet hardly extended so far, and to which those who showed it gave, most probably, the name of the phœnix. Ajasson is of opinion, that under the story of the phœnix an allegory was concealed, and thinks it may not improbably have been employed to pourtray the doctrine of the immortality of the soul. Bailly, *Hist. de l'Astronomie*, thinks that it bore reference to the great canicular year of the Egyptians.

Arabia; though I am not quite sure that its existence is not all a fable. It is said that there is only one in existence in the whole world, and that that one has not been seen very often. We are told that this bird is of the size of an eagle,[11] and has a brilliant golden plumage around the neck, while the rest of the body is of a purple colour; except the tail, which is azure, with long feathers intermingled of a roseate hue; the throat is adorned with a crest, and the head with a tuft of feathers. The first Roman who described this bird, and who has done so with the greatest exactness, was the senator Manilius, so famous for his learning; which he owed, too, to the instructions of no teacher. He tells us that no person has ever seen this bird eat, that in Arabia it is looked upon as sacred to the sun, that it lives five hundred and forty years,[12] that when it becomes old it builds a nest of cassia and sprigs of incense, which it fills with perfumes, and then lays its body down upon them to die; that from its bones and marrow there springs at first a sort of small worm, which in time changes into a little bird: that the first thing that it does is to perform the obsequies of its predecessor, and to carry the nest entire to the city of the Sun near Panchaia,[13] and there deposit it upon the altar of that divinity.

The same Manilius states also, that the revolution of the great year[14] is completed with the life of this bird, and that

[11] Borrowed from Herodotus, B. ii. c. 73.

[12] The MSS. vary considerably as to the number. Some make it 540 years, others 511, others 40, and others 560.

[13] Mentioned also, B. vii. c. 57.

[14] 532 years, according to Hardouin. Bailly says: "The first men who studied the heavens remarked that the revolution of the sun brought back the seasons in the same order. They thought that they observed that certain variations of the temperature depended upon the aspect of the moon, and attached different prognostics to the rising and setting of the stars, persuading themselves that the vicissitudes of things here below had regulated periods, like the movements of the heavenly bodies. From this arose the impression, that the same aspect, the same arrangement of all the stars, that had prevailed at the commencement of the world, would also attend its destruction; and that the period of this long revolution was the predestined duration of the life of nature. Another impression was the idea that the world would only perish at this epoch to be born again, and for the same order of things to recommence with the same series of celestial phenomena. Some fixed this universal renovation at the conjunction of all the planets, others at the return of the stars to the same point of the ecliptic; others, uniting these two kinds of revolutions, marked the term of the du-

then a new cycle comes round again with the same characteristics as the former one, in the seasons and the appearance of the stars; and he says that this begins about mid-day of the day on which the sun enters the sign of Aries. He also tells us that when he wrote to the above effect, in the consulship [15] of P. Licinius and Cneius Cornelius, it was the two hundred and fifteenth year of the said revolution. Cornelius Valerianus says that the phœnix took its flight from Arabia into Egypt in the consulship [16] of Q. Plautius and Sextus Papinius. This bird was brought to Rome in the censorship of the Emperor Claudius, being the year from the building of the City, 800, and it was exposed to public view in the Comitium.[17] This fact is attested by the public Annals, but there is no one that doubts that it was a fictitious phœnix only.

CHAP. 3. (3.)—THE DIFFERENT KINDS OF EAGLES.

Of all the birds with which we are acquainted, the eagle is looked upon as the most noble, and the most remarkable for its strength. There are six [18] different kinds; the one called "melanaetos" [19] by the Greeks, and "valeria" in our language,

ration of all things at the moment at which the planets and the stars would return to the same primitive situation with regard to the ecliptic, or in other words, they conceived an immense period, which would include one or more complete revolutions of each of the planets. All these periods were called the 'great year,' or the 'great revolution.'" *Histoire de l'Astronomie Ancienne.*

[15] A.U.C. 657.

[16] A.U.C. 789.

[17] A public place in the Forum, where the comitia curiata were held, and certain offences tried and punished.

[18] Cuvier remarks, that this passage is borrowed, with some changes, from Aristotle's "History of Animals," B. ix. c. 32, but that the account given by Pliny is not very easily explained, from the fact that the word *eagle* is not used by him in a rigorous acceptation of the word. Indeed it is only at the present day that any accurate knowledge has been obtained as to the different species of eagles, and the changes of colour to which they are subject with the advance of age; circumstances which have caused the species of them to be multiplied by naturalists. It is very doubtful, he says, whether Aristotle has distinguished the various kinds any better than Pliny; although Buffon, who himself was not very successful in distinguishing them, says that Aristotle understood more on the subject than the moderns.

[19] *Μελαναιετὸς*, or the "black eagle." Cuvier says, that this description is copied exactly from Aristotle, Hist. Anim. B. ix. c. 32. This eagle, he says, cannot be, as is commonly supposed, the "common eagle." It can only be, he thinks, the "small" eagle, the female of which, according to

the least in size of them all, but the most remarkable for its strength, is of a blackish colour. It is the only one among all the eagles that feeds its young; for the others, as we shall mention just now, drive them away; it is the only one too that has neither cry nor murmur; it is an inhabitant of the mountains. The second kind is the pygargus,[20] an inhabitant of the cities and plains, and distinguished by the whiteness of its tail. The third is the morphnos,[21] which Homer also calls the "percnos," while others, again, call it the "plangus" and the "anataria;" it is the second in size and strength, and dwells in the vicinity of lakes. Phemonoë, who was styled the "daughter of Apollo," has stated that this eagle has teeth, but that it has neither voice nor tongue; she says also that it is the blackest of all the eagles, and has a longer tail than the rest; Bœus is of the same opinion. This eagle has the instinct to break the shell of the tortoise by letting it fall from aloft, a circumstance which caused the death of the poet Æschylus. An oracle, it is said, had predicted his death on that day by the fall of a house, upon which he took the precaution of trusting himself only under the canopy of the heavens.

The fourth kind of eagle is the "percnopterus,"[22] also called the "oripelargus;"[23] it has much the appearance of the vulture,

Nauman and Savigny, when it is old is almost all black, and without spots; only the young being spotted.

[20] From the Greek πυγὴ ἀργὴ, "white tail." Cuvier remarks, that this is copied exactly from Aristotle, except that he says nothing about the whiteness of the tail, which is an interpolation. The feathers as described agree with those of the common eagle, the Falco fulvus, which is strong enough to seize a fawn. As regards its habit, he says, of dwelling on plains, that would agree better with the Jean le blanc of the French, the Falco Gallicus; while the name of pygargus is commonly applied, at the present day, to the great sea-eagle, the Falco albicilla; which frequents lakes and the sea-shore, and therefore corresponds more nearly with the haliætus of Pliny.

[21] Cuvier says, that he is almost tempted to believe that it is the balbusard, the Falco haliætus, that is here meant, as it has a black back, and lives in the vicinity of lakes. But then, he remarks, it lives on fish and not aquatic birds; while, on the other hand, the little eagle of Buffon, the Falco nævio, often seizes ducks and other aquatic animals. He is inclined then, notwithstanding the apparent confusion, to take this morphnos for the modern small eagle. The words μορφνὸς and περκνὸς signify "black."

[22] From the Greek, meaning "black wing."

[23] "Mountain stork." Buffon thinks that this is the great brown vulture; Cuvier, the great white-headed eagle.

with remarkably small wings, while the rest of the body is larger than the others; but it is of a timid and degenerate nature, so much so, that even a raven can beat it. It is always famishing and ravenous, and has a plaintive murmuring cry. It is the only one among the eagles that will carry off the dead carcase; the others settle on the spot where they have killed their prey. The character of this species causes the fifth one to be known by the distinctive name of "gnesios,"[24] as being the genuine eagle, and the only one of untainted lineage; it is of moderate size, of rather reddish colour, and rarely to be met with. The haliætus[25] is the last, and is remarkable for its bright and piercing eye. It poises itself aloft, and the moment it catches sight of a fish in the sea below, pounces headlong upon it, and cleaving the water with its breast, carries off its prey.

The eagle which we have mentioned as forming the third species, pursues the aquatic birds in the vicinity of standing waters: in order to make their escape they plunge into the water every now and then, until at length they are overtaken by lassitude and sleep, upon which the eagle immediately seizes them. The contest that takes place is really a sight worthy to be seen. The bird makes for the shore to seek a refuge, and especially if there should happen to be a bed of reeds there; while in the meantime the eagle endeavours to drive it away with repeated blows of its wings, and tumbles into the water in its attempts to seize it. While it is standing on the shore its shadow is seen by the bird, which immediately dives beneath, and then making its way in an opposite direction, emerges at some point at which it thinks it is the least likely to be looked for. This is the reason why these birds swim in flocks, for when in large numbers they are in no danger from the enemy; as by dashing up the spray with their wings they blind him.

Again, it often happens that the eagle is not able to carry the bird aloft on account of its weight, and in consequence they both of them sink together. The haliætus, and this one only, beats its young ones while in an unfledged state,

[24] Γνήσιος. "True-born," "genuine." Cuvier thinks that this may be the royal or imperial eagle, Falco imperialis.

[25] The great sea-eagle, according to Cuvier, the varieties of which (in age) are called by Linnæus "Falco albicaudus," and "Falco ossifraga."

with its wings, and forces[26] them from time to time to look steadily upon the rays of the sun; and if it sees either of them wink, or even its eye water, it throws it headlong out of the nest, as being spurious and degenerate, while, on the other hand, it rears the one whose gaze remains fixed and steady. The haliætus[27] is not a species of itself, but is an eagle of mixed breed: hence their produce are of the species known as the ossifrage, from which again is produced the smaller vulture; while this in its turn produces the large vulture, which, however, is quite barren.

Some writers add to the above a seventh kind, which they call the "bearded"[28] eagle; the Tuscans, however, call it the ossifrage.

CHAP. 4.—THE NATURAL CHARACTERISTICS OF THE EAGLE.

The first three and the fifth class of eagles employ in the construction of their aerie the stone aëtites,[29] by some known as "gangites;" which is employed also for many remedial purposes, and is proof against the action of fire. This stone has the quality also, in a manner, of being pregnant, for when shaken, another stone is heard to rattle within, just as though it were enclosed in its womb; it has no medical properties, however, except immediately after it has been taken from the nest.

Eagles build among rocks and trees; they lay three eggs, and generally hatch but two young ones, though occasionally as many as three have been seen. Being weary of the trouble of rearing both, they drive one of them from the nest: for just at this time the providential foresight of Nature has denied them a sufficiency of food, thereby using due precaution that the young of all the other animals should not become their prey. During this period, also, their talons become reversed, and their feathers grow white from continued hunger, so that it is not to be wondered at that they take a dislike to their

[26] See Lucan, B. ix. l. 902.

[27] He contradicts himself, for he has already stated that it is the sixth species.

[28] "Barbata." Cuvier takes it to be the læmmer-geyer, or Gypaëtus, the only bird of prey that has a beard.

[29] Or eagle-stone. See B. xxxvi. c. 39. He does not there mention that it is combustible. It is not impossible that pieces of aëtites, or ferruginous geodes, may have been found in an eagle's nest.

young. The ossifrage, however, a kindred species, takes charge of the young ones thus rejected, and rears them with its own; but the parent bird still pursues them with hostility, even when grown up, and drives them away, as being its rivals in rapine. And indeed, under any circumstances, one pair of eagles requires a very considerable space of ground to forage over, in order to find sufficient sustenance; for which reason it is that they mark out by boundaries their respective allotments, and seek their prey in succession to one another. They do not immediately carry off their prey, but first deposit it on the ground, and it is only after they have tested its weight that they fly away with it.

They die, not of old age, nor yet of sickness, or of hunger; but the upper part of the beak grows to such an extent, and becomes so curved, that they are unable to open it. They take the wing, and begin upon the labours of the chase at mid-day; sitting in idleness during the hours of the morning, until such time as the places[30] of public resort are filled with people. The feathers of the eagle, if mixed with those of other birds, will consume them.[31] It is said that this is the only bird that has never been killed by lightning; hence it is, that usage has pronounced it to be the armour-bearer of Jove.

CHAP. 5. (4.)—WHEN THE EAGLE WAS FIRST USED AS THE STANDARD OF THE ROMAN LEGIONS.

Caius Marius, in his second consulship, assigned the eagle exclusively to the Roman legions. Before that period it had only held the first rank, there being four others as well, the wolf, the minotaur, the horse, and the wild boar, each of which preceded a single division.[32] Some few years before his time it had begun to be the custom to carry the eagle only into battle, the other standards being left behind in camp; Marius, however, abolished the rest of them entirely. Since then, it has been remarked that hardly ever has a Roman legion encamped for the winter, without a pair of eagles making their appearance at the spot.

The first and second species of eagle, not only prey upon

[30] Fora.

[31] Albertus Magnus says that he knows this by actual experience: "credat Judæus."

[32] Ordinem.

the whole of the smaller quadrupeds, but will attack deer even. Rolling in the dust, the eagle covers its body all over with it, and then perching on the antlers of the animal, shakes the dust into its eyes, while at the same time it beats it on the head with its wings, until the creature at last precipitates itself down the rocks. Nor, indeed, is this one enemy sufficient for it; it has still more terrible combats with the dragon,[33] and the issue is much more doubtful, although the battle is fought in the air. The dragon seeks the eggs of the eagle with a mischievous avidity; while the eagle, in return, carries it off whenever it happens to see it; upon these occasions, the dragon coils itself about the wings of the bird in multiplied folds, until at last they fall to the earth together.

CHAP. 6. (5.)—AN EAGLE WHICH PRECIPITATED ITSELF ON THE FUNERAL PILE OF A GIRL.

There is a very famous story about an eagle at the city of Sestos. Having been reared by a little girl, it used to testify its gratitude for her kindness, first by bringing her birds, and in due time various kinds of prey: at last she died, upon which the bird threw itself on the lighted pile, and was consumed with her body. In memory of this event, the inhabitants raised upon the spot what they called an heroic monument,[34] in honour of Jupiter and the damsel, the eagle being a bird consecrated to that divinity.

CHAP. 7. (6.)—THE VULTURE.

Of the vultures, the black ones[35] are the strongest. No person has yet found a vulture's nest: hence it is that there are some who have thought, though erroneously, that these birds come from the opposite hemisphere.[36] The fact is, that they build their nest upon the very highest rocks; their young ones, indeed, are often to be seen, being generally two in number. Umbricius, the most skilful among the aruspices of our time, says that the vulture lays thirteen eggs,[37] and that with one of

[33] See Virgil, Æn. B. xi. l. 755, *et seq.* By the "dragon," he means some large serpent.

[34] "Heroum."

[35] The great European vulture.

[36] Their nests are seldom seen, in consequence of being concealed in the crags of the highest mountains, the Pyrenees, for instance.

[37] "Three" seems a better reading. Aristotle says "two."

these eggs[38] it purifies the others and its nest, and then throws it away: he states also that they hover about for three[39] days, over the spot where carcases are about to be found.

CHAP. 8. (7.)—THE BIRDS CALLED SANGUALIS AND IMMUSULUS.

There has been considerable argument among the Roman augurs about the birds known as the "sangualis" and the "immusulus." Some persons are of opinion that the immusulus is the young of the vulture, and the sangualis that of the ossifrage. Massurius says,[40] that the sangualis is the same as the ossifrage, and that the immusulus is the young of the eagle, before the tail begins to turn white. Some persons have asserted that these birds have not been seen at Rome since the time of the augur Mucius; for my part, I think it much more likely, that, amid that general heedlessness as to all knowledge, which has of late prevailed, no notice has been taken of them.

CHAP. 9. (8.)—HAWKS. THE BUTEO.

We find no less than sixteen[41] kinds of hawks mentioned; among these are the ægithus, which is lame[42] of one leg, and is looked upon as the most favourable omen for the augurs on the occasion of a marriage, or in matters connected with property in the shape of cattle: the triorchis also, so called from the number of its testicles,[43] and to which Phemonoë has assigned the first rank in augury. This last is by the Romans known as the "buteo;" indeed there is a family[44] that has taken its surname from it, from the circumstance of this bird having given a favourable omen by settling upon the ship of one of them when he held a command. The Greeks call one

[38] Ovid, in his "Art of Love," speaks of the use of eggs in purifications made by lovesick damsels. See B. ii. l. 330.

[39] This story arises from the extreme acuteness of their power of smelling a dead body. The Egyptians said that the vulture foreknows the field of battle seven days.

[40] Festus says, also, that it is the ossifrage, and was so called from the god Sancus.

[41] Aristotle says ten.

[42] A mere fable. Cuvier says that the ægithus of Aristotle was probably a kind of sparrow.

[43] Said to be three in number; a mere fable. The buzzard probably is meant.

[44] The family of the Buteones belonged to the gens Fabia.

kind[45] "epileus;" the only one, indeed, that is seen at all seasons of the year, the others taking their departure in the winter.

The various kinds are distinguished by the avidity with which they seize their prey; for while some will only pounce on a bird while on the ground, others will only seize it while hovering round the trees, others, again, while it is perched aloft, and others while it is flying in mid air. Hence it is that pigeons, on seeing them, are aware of the nature of the danger to which they are exposed, and either settle on the ground or else fly upwards, instinctively protecting themselves by taking due precautions against their natural propensities. The hawks of the whole of Massæsylia, breed in Cerne,[46] an island of Africa, lying in the ocean; and none of the kinds that are accustomed to those parts will breed anywhere else.

CHAP. 10.—IN WHAT PLACES HAWKS AND MEN PURSUE THE CHASE IN COMPANY WITH EACH OTHER.

In the part of Thrace which lies above Amphipolis, men[47] and hawks go in pursuit of prey, in a sort of partnership as it were; for while the men drive the birds from out of the woods and the reed-beds, the hawks bring them down as they fly; and after they have taken the game, the fowlers share it with them. It has been said, that when sent aloft, they will pick[48] out the birds that are wanted, and that when the opportune moment for taking them has come, they invite the fowler to seize the opportunity by their cries and their peculiar mode of flying. The sea-wolves, too, in the Palus Mæotis, do something of a very similar nature; but if they do not receive their fair share from the fishermen, they will tear their nets as they lie extended.[49] Hawks will not[50] eat the heart of a bird. The night-hawk is called cybindis;[51] it is rarely found, even in the

[45] Cuvier thinks that he means to identify this kind with the triorchis, of which Aristotle says that it is to be seen at all seasons.

[46] See B. vi. c. 36.

[47] Cuvier remarks, that we here find the art of falconry in its rough state. It was restored to Europe, no doubt, by the Crusaders. See Beckmann's Hist. Inventions, vol. i. p. 201. *Bohn's Edition.*

[48] "Missas in sublime sibi excipere eos." The meaning is very doubtful.

[49] The whole of this passage is, most probably, a gloss or interpolation.

[50] This is denied by Albertus Magnus.

[51] Cuvier remarks, that Pliny has erroneously joined the account given by Aristotle of the cybindis, to that of the hybris, or ptynx. He takes the cybindis to be the "Strix Uralensis" of Pallas.

woods, and in the day-time its sight is not good; it wages war to the death with the eagle, and they are often to be found clasped in each other's talons.

CHAP. 11. (9.)—THE ONLY BIRD THAT IS KILLED BY THOSE OF ITS OWN KIND.—A BIRD THAT LAYS ONLY ONE EGG.

The cuckoo seems to be but another form of the hawk,[52] which at a certain season of the year changes its shape; it being the fact that during this period no other hawks are to be seen, except, perhaps, for a few days only; the cuckoo, too, itself is only seen for a short period in the summer, and does not make its appearance after. It is the only one among the hawks that has not hooked talons; neither is it like the rest of them in the head, or, indeed, in any other respect, except the colour only, while in the beak it bears a stronger resemblance to the pigeon. In addition to this, it is devoured by the hawk, if they chance at any time to meet; this being the only one among the whole race of birds that is preyed upon by those of its own kind. It changes its voice also with its appearance, comes out in the spring, and goes into retirement at the rising of the Dog-star. It always lays its eggs in the nest of another bird, and that of the ring-dove[53] more especially,—mostly a single egg, a thing that is the case with no other bird; sometimes however, but very rarely, it is known to lay two. It is supposed, that the reason for its thus substituting its young ones, is the fact that it is aware[54] how greatly it is hated by all the other birds; for even the very smallest of them will attack it. Hence it is, that it thinks its own race will stand no chance of being perpetuated unless it contrives to deceive them, and for this reason builds no nest of its own: and besides this, it is a very timid animal. In the meantime, the female bird, sitting on her nest, is rearing a supposititious and spurious progeny; while the young cuckoo, which is naturally craving and greedy, snatches away all the food from the other young ones, and by so doing grows plump and sleek, and quite gains the affections of his foster-mother; who takes a great pleasure in his fine

[52] Cuvier says, that this notion is still entertained by the French peasantry.

[53] This is not the case. It only lays in the nests of insectivorous birds.

[54] Cuvier remarks, that this is not a very good reason; but we have not yet been able to find a better.

appearance, and is quite surprised that she has become the mother of so handsome an offspring. In comparison with him, she discards her own young as so many strangers, until at last, when the young cuckoo is now able to take the wing, he finishes by devouring[55] her. For sweetness of the flesh, there is not a bird in existence to be compared to the cuckoo at this season.

CHAP. 12. (10.)—THE KITE.

The kite, which belongs to the same genus, is distinguished from the rest of the hawks by its larger size. It has been remarked of this bird, extremely ravenous as it is, and always craving, that it has never been known to seize any food either from among funereal oblations or from the altar of Jupiter at Olympia; nor yet, in fact, does it ever seize any of the consecrated viands from the hands of those who are carrying them; except where some misfortune is presaged for the town that is offering the sacrifice. These birds seem to have taught man the art of steering, from the motion of the tail, Nature pointing out by their movements in the air the method required for navigating the deep. Kites also disappear during the winter months, but do not take their departure before the swallow. It is said, also, that after the summer solstice they are troubled with the gout.

CHAP. 13. (11.)—THE CLASSIFICATION OF BIRDS.

The first distinctive characteristic among birds is that which bears reference more especially to their feet: they have either hooked talons, or else toes, or else, again, they belong to the web-footed class, geese for instance, and most of the aquatic birds. Those which have hooked talons feed, for the most part, upon nothing but flesh.

CHAP. 14. (12.)—CROWS. BIRDS OF ILL OMEN. AT WHAT SEASONS THEY ARE NOT INAUSPICIOUS.

Crows, again, have another kind of food. Nuts being too hard for their beak to break, the crow flies to a great height,

[55] Cuvier denies this story, but says, that when the foster-mother is a very small bird, the young cuckoo will take the whole of her head in his beak when receiving food.

and then lets them fall again and again upon the stones or tiles beneath, until at last the shell is cracked, after which the bird is able to open them. This is a bird with a very ill-omened garrulity, though it has been highly praised by some.[56] It is observed, that from the rising of the constellation Arcturus until the arrival of the swallow, it is but rarely to be seen about the sacred groves and temples of Minerva; in some places, indeed, not at all, Athens for instance.[57] In addition to these facts, it is the only one that continues to feed its young for some time after they have begun to fly. The crow is most inauspicious at the time of incubation, or, in other words, just after the summer solstice.

CHAP. 15.—THE RAVEN.

All the other birds of the same kind drive their young ones from their nest, and compel them to fly; the raven, for instance, which not only feeds on flesh, but even drives its young, when able to fly, to a still greater distance. Hence it is that in small hamlets there are never more than two[58] pairs to be found; and in the neighbourhood of Crannon, in Thessaly, never more than one, the parents always quitting the spot to give place to their offspring. There have been some differences observed between this and the bird last mentioned. Ravens breed before the summer solstice, and continue in bad health for sixty days—being afflicted with a continual thirst more particularly—before the ripening of the fig in autumn; while, on the other hand, the crow is attacked by disease after that period. The raven lays, at most, but five eggs. It is a vulgar belief, that they couple, or else lay, by means of the beak; and that, consequently, if a pregnant woman happens to eat a raven's egg, she will be delivered by the mouth. It is also believed, that if the eggs are even so much as brought beneath the roof, a difficult labour will be the consequence. Aristotle denies it, and assures us in all good faith that there is no more truth in this than in the same story about the ibis in Egypt;

[56] "Curse on your ill-betiding croak." See "The Farmer's Wife and the Raven," in Gay's Fables.

[57] Aristotle says, that it was never to be seen in the Acropolis or Citadel of Athens.

[58] Only the case with the large raven, or Corvus corax of Linnæus, the others living in flocks.

he says that it is nothing else but that same sort of billing that is so often seen in pigeons.[59] Ravens are the only birds that seem to have any comprehension of the meaning of their auspices; for when the guests of Medus[60] were assassinated, they all took their departure from Peloponnesus and the region of Attica. They are of the very worst omen when they swallow their voice, as if they were being choked.

CHAP. 16.—THE HORNED OWL.

The birds of the night also have crooked talons, such as the owlet,[61] the horned owl, and the screech-owl, for instance; the sight of all of which is defective in the day-time. The horned owl is especially funereal, and is greatly abhorred in all auspices of a public nature: it inhabits deserted places, and not only desolate spots, but those of a frightful and inaccessible nature: the monster of the night, its voice is heard, not with any tuneful note, but emitting a sort of shriek. Hence it is that it is looked upon as a direful omen to see it in a city, or even so much as in the day-time. I know, however, for a fact, that it is not portentous of evil when it settles on the top of a private house. It cannot fly whither it wishes in a straight line, but is always carried along by a sidelong movement. A horned owl entered the very sanctuary of the Capitol, in the consulship of Sextus Palpelius Hister and L. Pedanius; in consequence of which, Rome was purified on the nones[62] of March in that year.

CHAP. 17. (13.)—BIRDS, THE RACE OF WHICH IS EXTINCT, OR OF WHICH ALL KNOWLEDGE HAS BEEN LOST.

An inauspicious bird also is that known as the "incendiary;"[63]

[59] Doé says, that this is incorrect; the beak of the raven not being of a similar form to that of the pigeon.

[60] Or else, "The Median guests." It is not known to what he alludes. Alexander ab Alexandro says, that both Alexander the Great and Cicero were warned of their deaths by the raven.

[61] "Noctua, bubo, ulula." It is very doubtful what birds are meant by these names. Cuvier has been at some pains to identify them, and concludes that the noctua, or glaux of Aristotle, is the Strix brachyotas of Linnæus, the "short-eared screech-owl;" the bubo, the Strix bubo of Linnæus, and the ulula, the Strix aluco of Linnæus; our madgehowlet, grey or brown owl.

[62] Seventh of March. The year of their consulship is not known.

[63] Cuvier suggests, that it may be the coracias of Aristotle, our jack-

on account of which, we find in the Annals, the City has had to be repeatedly purified; as, for instance, in the consulship of L. Cassius and C. Marius,[64] in which year also it was purified, in consequence of a horned owl being seen. What kind of bird this incendiary bird was, we do not find stated, nor is it known by tradition. Some persons explain the term this way; they say that the name "incendiary" was applied to every bird that was seen carrying a burning coal from the pyre, or altar; while others, again, call such a bird a "spinturnix;[65] though I never yet found any person who said that he knew what kind of bird this spinturnix was.

(14.) I find also that the people of our time are ignorant what bird it was that was called by the ancients a "clivia." Some persons say that it was a clamatory, others, again, that it was a prohibitory, bird. We also find a bird mentioned by Nigidius as the "subis," which breaks the eggs of the eagle.

(15.) In addition to the above, there are many other kinds that are described in the Etruscan ritual, but which no one now living has ever seen. It is surprising that these birds are no longer in existence, since we find that even those kinds abound, among which the gluttony of man commits such ravages.

CHAP. 18. (16.)—BIRDS WHICH ARE BORN WITH THE TAIL FIRST.

Among foreigners, a person called Hylas is thought to have written the best treatise on the subject of augury. He informs us that the owlet, the horned owl, the woodpecker, which makes holes in trees, the trygon, and the crow, are produced from the egg with the tail[66] first; for the egg, being turned upside down through the weight of the head of the chick, presents the wrong end to be warmed by the mother as she sits upon it.

daw probably, the Corvus graculus of Linnæus. It has been said, that in its admiration of shining objects, it will take up a burning coal; a trick which has before now caused conflagrations. Servius speaks of it as frequenting funeral piles.

[64] A.U.C. 647.

[65] "Spinturnix" and "clivia" were names given by the augurs probably to some kinds of birds.

[66] Cuvier ridicules the excessive ignorance of the augurs. It is with the beak that the young bird breaks the shell.

CHAP. 19. (17.)—THE OWLET.

The owlet shows considerable shrewdness in its engagements with other birds; for when surrounded by too great a number, it throws itself on its back, and so, resisting with its feet, and rolling up its body into a mass, defends itself with the beak and talons; until the hawk, attracted by a certain natural affinity, comes to its assistance, and takes its share in the combat. Nigidius says, that the incubation of the owlet lasts sixty days, during the winter, and that it has nine different notes.

CHAP. 20. (18.)—THE WOOD-PECKER OF MARS.

There are some small birds also, which have hooked talons; the wood-pecker, for example, surnamed "of Mars," of considerable importance in the auspices. To this kind belong the birds which make holes in trees, and climb stealthily up them, like cats; mounting with the head upwards, they tap against the bark, and learn by the sound whether or not their food lies beneath; they are the only birds that hatch their young in the hollows of trees. It is a common belief, that if a shepherd drives a wedge into their holes, they apply a certain kind of herb,[67] immediately upon which it falls out. Trebius informs us that if a nail or wedge is driven with ever so much force into a tree in which these birds have made their nest, it will instantly fly out, the tree making a loud cracking noise the moment that the bird has lighted upon the nail or wedge.

These birds have held the first rank in auguries, in Latium, since the time of the king[68] who has given them their name. One of the presages that was given by them, I cannot pass over in silence. A woodpecker came and lighted upon the head of Ælius Tubero, the City prætor, when sitting on his tribunal dispensing justice in the Forum, and showed such tameness as to allow itself to be taken with the hand; upon which the augurs declared that if it was let go, the state was menaced with danger, but if killed, disaster would befall

[67] See B. xxv. c. 5.

[68] Picus, the son of Saturn, king of Latium. He was skilled in augury, and was said to have been changed into a woodpecker. See Ovid, Met. B. xiv. l. 314.; Virgil, Æn. B. vii. c. 187. See also Ovid, Fasti, B. iii. l. 37.

the prætor; in an instant he tore the bird to pieces, and before long the omen was fulfilled.[69]

CHAP. 21. (19.)—BIRDS WHICH HAVE HOOKED TALONS.

Many birds of this kind feed also on acorns and fruit, but only those which are not carnivorous, with the exception of the kite; though when it feeds on anything but flesh, it is a bird of ill omen.

The birds which have hooked talons are never gregarious; each one seeks its prey by itself. They nearly all of them soar to a great height, with the exception of the birds of the night, and more especially those of larger size. They all have large wings, and a small body; they walk with difficulty, and rarely settle upon stones, being prevented from doing so by the curved shape of their talons.

CHAP. 22. (20.)—THE PEACOCK.

We shall now speak of the second class of birds, which is divided into two kinds; those which give omens[70] by their note, and those which afford presages by their flight. The variation of the note in the one, and the relative size in the other, constitute the differences between them. These last, therefore, shall be treated of first, and the peacock shall have precedence of all the rest, as much for its singular beauty as its superior instinct, and the vanity it displays.

When it hears itself praised, this bird spreads out its gorgeous colours, and especially if the sun happens to be shining at the time, because then they are seen in all their radiance, and to better advantage. At the same time, spreading out its tail in the form of a shell, it throws the reflection upon the other feathers, which shine all the more brilliantly when a shadow is cast upon them; then at another moment it will contract all the eyes[71] depicted upon its feathers in a single

[69] Valerius Maximus, B. v. c. 6, says, that seventeen members of this family fell at the battle of Cannæ.

[70] "Oscines" and "alites." This was a distinction made by the augurs, but otherwise of little utility, as all the birds with a note fly as well.

[71] See the story of the eyes of Argus transferred to the peacock's tail. Ovid, Met. B. i. l. 616.

mass, manifesting great delight in having them admired by the spectator. The peacock loses its tail every year at the fall of the leaf, and a new one shoots forth in its place at the flower season; between these periods the bird is abashed and moping, and seeks retired spots. The peacock lives twenty-five years, and begins to show its colours in the third. By some authors it is stated that this bird is not only a vain creature, but of a spiteful disposition also, just in the same way that they attribute bashfulness to the goose.[72] The characteristics, however, which they have thus ascribed to these birds, appear to me to be utterly unfounded.

CHAP. 23.—WHO WAS THE FIRST TO KILL THE PEACOCK FOR FOOD.—WHO FIRST TAUGHT THE ART OF CRAMMING THEM.

The orator Hortensius was the first Roman who had the peacock killed for table; it was on the occasion of the banquet given by him on his inauguration in the college of the priesthood. M. Aufidius Lurco[73] was the first who taught the art of fattening them, about the time of the last war with the Pirates. From this source of profit he acquired an income of sixty thousand sesterces.[74]

CHAP. 24. (21.)—THE DUNGHILL COCK.

Next after the peacock, the animal that acts as our watchman by night, and which Nature has produced for the purpose of arousing mortals to their labours, and dispelling their slumbers, shows itself most actuated by feelings of vanity. The cock knows how to distinguish the stars, and marks the different periods of the day, every three hours, by his note. These animals go to roost with the setting of the sun, and at the fourth watch of the camp recall man to his cares and toils. They do not allow the rising of the sun to creep upon us unawares, but by their note proclaim the coming day, and they prelude their crowing by clapping their sides with their wings. They exercise a rigorous sway over the other birds of their

[72] It would be curious to know how the goose manifests its modesty, or "verecundia." We are equally at a loss with Pliny to discover it.

[73] Tribune of the people, B.C. 61. He was maternal grandfather of the Empress Livia. "Lurco" means a "glutton.

[74] About 12,270 francs, Ajasson says.

kind, and, in every place where they are kept, hold the supreme command. This, however, is only obtained after repeated battles among themselves, as they are well aware that they have weapons on their legs, produced for that very purpose, as it were, and the contest often ends in the death of both the combatants at the same moment. If, on the other hand, one of them obtains the mastery, he instantly by his note proclaims himself the conqueror, and testifies by his crowing that he has been victorious; while his conquered opponent silently slinks away, and, though with a very bad grace, submits to servitude. And with equal pride does the throng of the poultry yard strut along, with head uplifted and crest erect. These, too, are the only ones among the winged race that repeatedly look up to the heavens, with the tail, which in its drooping shape resembles that of a sickle, raised aloft: and so it is that these birds inspire terror even in the lion,[75] the most courageous of all animals.

Some of these birds, too, are reared for nothing but warfare and perpetual combats, and have even shed a lustre thereby on their native places, Rhodes and Tanagra. The next rank is considered to belong to those of Melos[76] and Chalcis. Hence, it is not without very good reason that the consular purple of Rome pays these birds such singular honours. It is from the feeding of these creatures that the omens[77] by fowls are derived; it is these that regulate[78] day by day the movements of our magistrates, and open or shut to them their own houses, as the case may be; it is these that give an impulse to the fasces of the Roman magistracy, or withhold them; it is these that command battles or forbid them, and furnish auspices for victories to be gained in every part of the world. It is these that hold supreme rule over those who are themselves the rulers of the earth, and whose entrails and fibres are as pleasing to the gods as the first spoils of victory. Their note, when heard at an unusual hour or in the evening, has also its peculiar presages; for, on one occasion, by crowing the whole night through for several nights, they presaged to the Bœotians that famous

[75] See B. viii. c. 19.

[76] Possibly Media; Varro says, "Medicos."

[77] "Tripudia solistima." An omen derived from the feeding of the fowls, when they devoured their food with such avidity, that it fell from their mouths and rebounded from the ground.

[78] By the auspices which they afforded.

victory[79] which they gained over the Lacedæmonians; such, in fact, being the interpretation that was put upon it by way of prognostic, as this bird, when conquered, is never known to crow.

CHAP. 25.—HOW COCKS ARE CASTRATED. A COCK THAT ONCE SPOKE.

When castrated, cocks cease to crow. This operation is performed two different ways. Either the loins of the animal are seared with a red-hot iron, or else the lower part of the legs; after which, the wound is covered up with potter's clay: this way they are fattened much more easily. At Pergamus,[80] there is every year a public show of fights of game-cocks, just as in other places we have those of gladiators.

We find it stated in the Roman Annals, that in the[81] consulship of M. Lepidus and Q. Catulus a dung-hill cock spoke, at the farm-house of Galerius; the only occasion, in fact, that I know of.

CHAP. 26. (22.)—THE GOOSE.

The goose also keeps a vigilant guard; a fact which is well attested by the defence of the Capitol, at a moment when, by the silence of the dogs, the commonwealth had been betrayed:[82] for which reason it is that the Censors always, the first thing of all, attend to the farming-out of the feeding of the sacred geese. What is still more, too, there is a love-story about this animal. At Ægium one is said to have conceived a passion for a beautiful boy, a native of Olenos,[83] and another for Glauce, a damsel who was lute-player to King Ptolemy; for whom at the same time a ram is said also to have conceived a passion. One might almost be tempted to think that these creatures have an appreciation of wisdom:[84] for it is said, that one of

[79] Mentioned by Cicero, De Divin. B. i.

[80] The same too at Athens, in one of the theatres, in remembrance, Ælian says, of the victory gained by Themistocles over the Persians.

[81] A.U.C. 676.

[82] When the Capitol was besieged by the Gauls.

[83] Near Patræ, in Achaia. Ælian gives his name as Amphilochus.

[84] A singular quality in a goose. Ælian says, that Lacydes was a peripatetic philosopher, and that he honoured the goose with splendid obsequies, when it died.

them was the constant companion of the philosopher, Lacydes, and would never leave him, either in public or when at the bath, by night or by day.

CHAP. 27.—WHO FIRST TAUGHT US TO USE THE LIVER OF THE GOOSE FOR FOOD.

Our people, however, are more wise; for they only esteem the goose for the goodness of its liver.[85] When they are crammed, this grows to a very large size, and on being taken from the animal, is made still larger by being soaked in honeyed milk.[86] And, indeed, it is not without good reason that it is matter of debate who it was that first discovered so great a delicacy; whether, in fact, it was Scipio Metellus, a man of consular dignity, or M. Seius, a contemporary of his, and a Roman of equestrian rank. However, a thing about which there is no dispute, it was Messalinus Cotta, the son of the orator Messala, who first discovered the art of roasting the webbed feet of the goose, and of cooking them in a ragout with cocks' combs: for I shall faithfully award each culinary palm to such as I shall find deserving of it. It is a wonderful fact, in relation to this bird, that it comes on foot all the way from the country of the Morini[87] to Rome; those that are tired are placed in the front rank, while the rest, taught by a natural instinct to move in a compact body, drive them on.

A second income, too, is also to be derived from the feathers of the white goose. In some places, this animal is plucked twice a year, upon which the feathers quickly grow again. Those are the softest which lie nearest to the body, and those that come from Germany are the most esteemed: the geese there are white, but of small size, and are called *gantæ*.[88] The price paid for their feathers is five denarii per pound. It is from this fruitful source that we have repeated charges brought against the commanders of our auxiliaries, who are in the habit of detaching whole cohorts from the posts where they ought to be on guard, in pursuit of these birds: indeed, we have come to such a pitch of effeminacy, that now-a-days, not even

[85] See B. viii. c. 87. Horace also mentions that they were fattened with figs.

[86] "Lacte mulso." Perhaps honey, wine, and milk.

[87] In Gaul. See B. iv. c. 31.

[88] "Gans" is still the German name. Hence our word "gander."

the men can think of lying down without the aid of the goose's feathers, by way of pillow.

CHAP. 28.—OF THE COMMAGENIAN MEDICAMENT.

The part of Syria which is called Commagene, has discovered another invention also; the fat of the goose[89] is enclosed with some cinnamon in a brazen vessel, and then covered with a thick layer of snow. Under the influence of the excessive cold, it becomes macerated, and fit for use as a medicament, remarkable for its properties: from the country which produces it, it is known to us as "Commagenum."[90]

CHAP. 29.—THE CHENALOPEX, THE CHENEROS, THE TETRAO, AND THE OTIS.

To the goose genus belong also the chenalopex,[91] and the cheneros,[92] a little smaller than the common goose, and which forms the most exquisite of all the dainties that Britannia provides for the table. The tetrao[93] is remarkable for the lustre of its plumage, and its extreme darkness, while the eyelids are of a scarlet colour. Another species[94] of this last bird exceeds the vulture in size, and is of a similar colour to it; and, indeed, there is no bird, with the exception of the ostrich, the body of which is of a greater weight; for to such a size does it grow, that it becomes incapable of moving, and allows itself to be taken on the ground. The Alps and the regions of the North produce these birds; but when kept in aviaries, they lose their fine flavour, and by retaining their breath, will die of mere vexation. Next to these in size are the birds which in Spain they call the "tarda,"[95] and in Greece the "otis:" they

[89] This medicament is further treated of in B. xxix. c. 13.

[90] "The Commagenian mixture." For Commagene, see B. v. cc. 13 and 20.

[91] The "goose-fox," so called, according to Ælian, for its cunning and mischievous qualities; and worshipped by the Egyptians for its affection for its young. It is supposed by Cuvier to be the Anas Ægyptiaca of Buffon.

[92] The Anas clypeata of Buffon, according to Cuvier.

[93] The Tetrao tetrix of Linnæus, or heathcock.

[94] The Tetrao urogallus of Linnæus, according to Cuvier.

[95] The Otis tarda of Linnæus. Cuvier says, that it is not the case that they are bad eating, and remarks that birds have *no* marrow in the larger bones.

are looked upon however as very inferior food; the marrow,[96] when disengaged from the bones, immediately emits a most noisome smell.

CHAP. 30. (23.)—CRANES.

By the departure of the cranes, which, as we have already stated,[97] were in the habit of waging war with them, the nation of the Pygmies now enjoys a respite. The tracts over which they travel must be immense, if we only consider that they come all the way from the Eastern Sea.[98] These birds agree by common consent at what moment they shall set out, fly aloft to look out afar, select a leader for them to follow, and have sentinels duly posted in the rear, which relieve each other by turns, utter loud cries, and with their voice keep the whole flight in proper array. During the night, also, they place sentinels on guard, each of which holds a little stone in its claw: if the bird should happen to fall asleep, the claw becomes relaxed, and the stone falls to the ground, and so convicts it of neglect. The rest sleep in the meanwhile, with the head beneath the wing, standing first on one leg and then on the other: the leader looks out, with neck erect, and gives warning when required. These birds, when tamed, are very frolicsome, and even when alone will describe a sort of circle, as they move along, with their clumsy gait.

It is a well-known fact, that these birds, when about to fly over the Euxine, first of all repair to the narrowest part of it, that lies between the two[99] Promontories of Criumetopon and Carambis, and then ballast themselves with coarse sand. When they have arrived midway in the passage, they throw away the stones from out of their claws, and, as soon as they reach the mainland, discharge the sand by the throat.

Cornelius Nepos, who died in the reign of the late Emperor Augustus, after stating that thrushes had been fattened for the first time shortly before that period, has added that storks were more esteemed as food than cranes: whereas at the present day, this last bird is one of those that are held in the very highest esteem, while no one will so much as touch the other.

[96] Doé thinks that the spinal marrow is meant.

[97] B. iv. c. 18, and B. vii. c. 2.

[98] In B. vii. c. 2, Pliny speaks of the Pygmies as living to the far East of India.

[99] See B. iv. cc. 20 and 26; and B. vi. c. 2.

CHAP. 31.—STORKS.

Up to the present time it has not been ascertained from what place the storks come, or whither they go when they leave us. There can be no doubt but that, like the cranes, they come from a very great distance, the cranes being our winter, the storks our summer, guests. When about to take their departure, the storks assemble at a stated place, and are particularly careful that all shall attend, so that not one of their kind may be left behind, with the exception of such as may be in captivity or tamed; and then on a certain day they set out, as though by some law they were directed to do so. No one has ever yet seen a flight of cranes taking their departure, although they have been often observed preparing to depart; and in the same way, too, we never see them arrive, but only when they have arrived; both their departure as well as their arrival take place in the night. Although, too, we see them flying about in all directions, it is still supposed that they never arrive at any other time but in the night. Pythonoscome[1] is the name given to some vast plains of Asia, where, as they assemble together, they keep up a gabbling noise, and tear to pieces the one that happens to arrive the last; after which they take their departure. It has been remarked that after the ides of August,[2] they are never by any accident to be seen there.

There are some writers who assure us that the stork has no tongue. So highly are they esteemed for their utility in destroying serpents, that in Thessaly, it was a capital crime for any one to kill a stork, and by the laws the same penalty was inflicted for it as for homicide.

CHAP. 32.—SWANS.

Geese, and swans also, travel in a similar manner, but then they are seen to take their flight. The flocks, forming a point, move along with great impetus, much, indeed, after the manner of our Liburnian beaked galleys; and it is by doing so that they are enabled to cleave the air more easily than if they presented to it a broad front. The flight gradually enlarges

[1] The "village of the Python," or "serpent." Gueroult suggests that this may be Serponouwtzi, beyond the river Oby, in Siberia.

[2] Thirteenth of August.

in the rear, much in the form of a wedge, presenting a vast surface to the breeze, as it impels them onward; those that follow place their necks on those that go before, while the leading birds, as they become weary, fall to the rear. Storks return to their former nests, and the young, in their turn, support their parents when old. It is stated that at the moment of the swan's death, it gives utterance to a mournful song;[3] but this is an error, in my opinion, at least I have tested the truth of the story on several occasions. These birds will eat the flesh of one another.

CHAP. 33.—FOREIGN BIRDS WHICH VISIT US; THE QUAIL, THE GLOTTIS, THE CYCHRAMUS, AND THE OTUS.

Having spoken of the emigration of these birds over sea and land, I cannot allow myself to defer mentioning some other birds of smaller size, which have the same natural instinct: although in the case of those which I have already mentioned, their very size and strength would almost seem to invite them to such habits. The quail, which always arrives among us even before the crane, is a small bird, and when it has once arrived, more generally keeps to the ground than flies aloft. These birds fly also in a similar manner to those I have already spoken of, and not without considerable danger to mariners, when they come near the surface of the earth: for it often happens that they settle on the sails of a ship, and that too always in the night: the consequence of which is, that the vessel often sinks. These birds pursue their course along a tract of country with certain resting-places. When the south wind is blowing, they will not fly, as that wind is always humid, and apt to weigh them down. Still, however, it is an object with them to get a breeze to assist them in their flight, the body being so light, and their strength so very limited: hence it is that we hear them make that murmuring noise as they fly, it being extorted from them by fatigue. It is for this reason also, that they take to flight more especially when

[3] M. Mauduit has a learned discussion in Panckouke's Translation, vol. viii., many pages in length; in which he satisfactorily shows that this is not entirely fabulous, but that the wild swan of the northern climates really is possessed of a tuneful note or cadence. Of course, the statement that it only sings just before its death, must be rejected as fabulous.

the north wind is blowing, having the ortygometra[4] for their leader. The first of them that approaches the earth is generally snapped up by the hawk. When they are about to return from these parts, they always invite other birds to join their company, and the glottis, otus, and cychramus, yielding to their persuasions, take their departure along with them.

The glottis[5] protrudes a tongue of remarkable length, from which circumstance it derives its name: at first it is quite pleased with the journey, and sets out with the greatest ardour; very soon, however, when it begins to feel the fatigues of the flight, it is overtaken by regret, while at the same time it is equally as loth to return alone, as to accompany the others. Its travels, however, never last more than a single day, for at the very first resting-place they come to, it deserts: here too it finds other birds, which have been left behind in a similar manner in the preceding year. The same takes place with other birds day after day. The cychramus,[6] however, is much more persevering, and is quite in a hurry to arrive at the land which is its destination: hence it is that it arouses the quails in the night, and reminds them that they ought to be on the road.

The otus is a smaller bird than the horned owl, though larger than the owlet; it has feathers projecting like ears, whence its name. Some persons call it in the Latin language the "asio;"[7] in general it is a bird fond of mimicking, a great parasite, and, in some measure, a dancer as well. Like the owlet, it is taken without any difficulty; for while one person occupies its attention, another goes behind, and catches it.

If the wind, by its contrary blasts, should begin to prevent the onward progress of the flight, the birds immediately take up small stones, or else fill their throats with sand, and so contrive to ballast themselves as they fly. The seeds of a certain venomous plant[8] are most highly esteemed by the

[4] The "mother of the quails." Frederic II., in his work, De Arte Venandi, calls the "rallus," or "rail," the "leader of the quails."

[5] From γλωττὰ, "a tongue." It is not known what bird is alluded to.

[6] Bellon thinks that this is the *proyer*, or *prayer*, of the French; Aldrovandus considers it to be the ortolan.

[7] Gesner suggests from "asinus," an "ass;" its feathers sticking up like the ears of that animal. Dalechamps thinks it is because its voice resembles the braying of an ass; the name "otus" is from the Greek for "ear."

[8] Either hemlock or hellebore.

quails as food; for which reason it is that they have been banished from our tables; in addition to which, a great repugnance is manifested to eating their flesh, on account of the epilepsy,[9] to which alone of all animals, with the exception of man, the quail is subject.

CHAP. 34. (24.)—SWALLOWS.

The swallow, the only bird that is carnivorous among those which have not hooked talons, takes its departure also during the winter months; but it only goes to neighbouring countries, seeking sunny retreats there on the mountain sides; sometimes they have been found in such spots bare and quite unfledged. This bird, it is said, will not enter a house in Thebes, because that city has been captured so frequently; nor will it approach the country of the Bizyæ, on account of the crimes committed there by Tereus.[10] Cæcina[11] of Volaterræ, a member of the equestrian order, and the owner of several chariots, used to have swallows caught, and then carried them with him to Rome. Upon gaining a victory, he would send the news by them to his friends; for after staining them the colour[12] of the party that had gained the day, he would let them go, immediately upon which they would make their way to the nests they had previously occupied. Fabius Pictor also relates, in his Annals, that when a Roman garrison was being besieged by the Ligurians, a swallow which had been taken from its young ones was brought to him, in order that he might give them notice, by the number of knots on a string tied to its leg, on what day succour would arrive, and a sortie might be made with advantage.

CHAP. 35.—BIRDS WHICH TAKE THEIR DEPARTURE FROM US, AND WHITHER THEY GO; THE THRUSH, THE BLACKBIRD, AND THE STARLING—BIRDS WHICH LOSE THEIR FEATHERS DURING THEIR

[9] "Despui suetum." See B. xxviii. c. 7. As Hardouin says, in modern times they are considered delicate eating; but Schenkius, Obsers. Med. B. i., states, that if the bird has eaten hellebore, epilepsy is the consequence to the person who partakes of its flesh.

[10] See B. iv. c. 18.

[11] A friend of Augustus, sent by him with proposals to Antony, B.C. 41.

[12] The colour of the "factio," or "party" of charioteers. See p. 217.

RETIREMENT—THE TURTLE-DOVE AND THE RING-DOVE—THE FLIGHT OF STARLINGS AND SWALLOWS.

In a similar manner also, the blackbird, the thrush, and the starling take their departure to neighbouring countries; but they do not lose their feathers, nor yet conceal themselves, as they are often to be seen in places where they seek their food during the winter: hence it is that in winter, more especially, the thrush is so often to be seen in Germany. It is, however, a well-ascertained fact, that the turtle-dove conceals itself, and loses its feathers. The ring-dove, also, takes its departure: and with these too, it is a matter of doubt whither they go. It is a peculiarity of the starling to fly in troops, as it were, and then to wheel round in a globular mass like a ball, the central troop acting as a pivot for the rest. Swallows are the only birds that have a sinuous flight of remarkable velocity; for which reason it is that they are not exposed to the attacks of other birds of prey: these too, in fine, are the only birds that take their food solely on the wing.

CHAP. 36. (25.)—BIRDS WHICH REMAIN WITH US THROUGHOUT THE YEAR; BIRDS WHICH REMAIN WITH US ONLY SIX OR THREE MONTHS; WITWALLS AND HOOPOES.

The time during which birds show themselves differs very considerably. Some remain with us all the year round, the pigeon, for instance; some for six months, such as the swallow; and some, again, for three months only, as the thrush, the turtle-dove, and those which take their departure the moment they have reared their young, the witwall[13] and the hoopoe, for instance.

CHAP. 37. (26.)—THE MEMNONIDES.

There are some authors who say that every year certain birds[14] fly from Æthiopia to Ilium, and have a combat at the tomb of Memnon there; from which circumstance they have received from them the name of Memnonides, or birds of Memnon. Cremutius states it also as a fact, ascertained by

[13] Galgulus.

[14] Cuvier suggests, that these birds may have been the Tringa pugnax of Linnæus and Buffon, the males of which engage in most bloody combats with each other on the banks of rivers, in spring.

himself, that they do the same every fifth year in Æthiopia, around the palace of Memnon.

CHAP. 38.—THE MELEAGRIDES.

In a similar manner also, the birds called meleagrides[15] fight in Bœotia. They are a species of African poultry, having a hump on the back, which is covered with a mottled plumage. These are the latest among the foreign birds that have been received at our tables, on account of their disagreeable smell. The tomb, however, of Meleager has rendered them famous.

CHAP. 39. (27.)—THE SELEUCIDES.

Those birds are called seleucides, which are sent by Jupiter at the prayers offered up to him by the inhabitants of Mount Casius,[16] when the locusts are ravaging their crops of corn. Whence they[17] come, or whither they go, has never yet been ascertained, as, in fact, they are never to be seen but when the people stand in need of their aid.

CHAP. 40. (28.)—THE IBIS.

The Egyptians also invoke their ibis against the incursions of serpents; and the people of Elis, their god Myiagros,[18] when the vast multitudes of flies are bringing pestilence among them; the flies die immediately the propitiatory sacrifice has been made to this god.

CHAP. 41. (29.)—PLACES IN WHICH CERTAIN BIRDS ARE NEVER FOUND.

With reference to the departure of birds, the owlet, too, is said to lie concealed for a few days. No birds of this last kind are to be found in the island of Crete, and if any are imported thither, they immediately die. Indeed, this is a remarkable distinction made by Nature; for she denies to certain places, as it were, certain kinds of fruits and shrubs, and of animals as

[15] No doubt, as Cuvier says, this was the Numida meleagris of Linnæus, Guinea hen, or pintada. Cuvier remarks that they are very pugnacious birds.

[16] See B. v. c. 22.

[17] Cuvier suggests, that these birds may have been of the starling genus, perhaps the Turdus roseus of Linnæus.

[18] The "hunter of flies."

well; it is singular that when introduced into these localities they will be no longer productive, but die immediately they are thus transplanted. What can it be that is thus fatal to the increase of one particular species, or whence this envy manifested against them by Nature? What, too, are the limits that have been marked out for the birds on the face of the earth?

Rhodes[19] possesses no eagles. In Italy beyond the Padus, there is, near the Alps, a lake known by the name of Larius, beautifully situate amid a country covered with shrubs; and yet this lake is never visited by storks, nor, indeed, are they ever known to come within eight miles of it; while, on the other hand, in the neighbouring territory of the Insubres[20] there are immense flocks of magpies and jackdaws, the only[21] bird that is guilty of stealing gold and silver, a very singular propensity.

It is said that in the territory of Tarentum, the woodpecker of Mars is never found. It is only lately too, and that but very rarely, that various kinds of pies have begun to be seen in the districts that lie between the Apennines and the City; birds which are known by the name of "variæ,"[22] and are remarkable for the length of the tail. It is a peculiarity of this bird, that it becomes bald every year at the time of sowing rape. The partridge does not fly beyond the frontiers of Bœotia, into Attica; nor does any bird, in the island[23] in the Euxine in which Achilles was buried, enter the temple there consecrated to him. In the territory of Fidenæ, in the vicinity of the City, the storks have no young nor do they build nests: but vast numbers of ringdoves arrive from beyond sea every year in the district of Volaterræ. At Rome, neither flies nor dogs ever enter the temple of Hercules in the Cattle Market. There are numerous other instances of a similar nature in reference to all kinds of animals, which from time to time I feel myself prompted by prudent considerations to omit, lest I should

[19] Suetonius says, that when Tiberius was staying at Rhodes, an eagle perched on the roof of his house; such a bird having never been seen before on the island.

[20] See B. iii. c. 21.

[21] It is still noted for its thieving propensities; witness the English story of the Maid and the Magpie, and the Italian opera of "La Gazza Ladra." Cicero says, "They would no more trust gold with you, than with a jackdaw." See also Ovid's Met. B. vii. It is the Corvus pica of Linnæus.

[22] "Mottled pies."

[23] See B. iv. c. 12.

only weary the reader. Theophrastus, for example, relates that even pigeons, as well as peacocks and ravens, have been introduced from other parts into Asia,[24] as also croaking frogs[25] into Cyrenaica.

CHAP. 42.—THE VARIOUS KINDS OF BIRDS WHICH AFFORD OMENS BY THEIR NOTE—BIRDS WHICH CHANGE THEIR COLOUR AND THEIR VOICE.

There is another remarkable fact too, relative to the birds which give omens by their note; they generally change their colour and voice at a certain season of the year, and suddenly become quite altered in appearance; a thing that, among the larger birds, happens with the crane only, which grows black in its old age. From black, the blackbird changes to a reddish colour, sings in summer, chatters in winter, and about the summer solstice loses its voice; when a year old, the beak also assumes the appearance of ivory; this, however, is the case only with the male. In the summer, the thrush is mottled about the neck, but in the winter it becomes of one uniform colour all over.

CHAP. 43.—THE NIGHTINGALE.

The song of the nightingale is to be heard, without intermission, for fifteen days and nights, continuously,[26] when the foliage is thickening, as it bursts from the bud; a bird which deserves our admiration in no slight degree. First of all, what a powerful voice in so small a body! its note, how long, and how well sustained! And then, too, it is the only bird the notes of which are modulated in accordance with the strict rules of musical science.[27] At one moment, as it sustains its

[24] Asia Minor, most probably. The assertion, though supported by Theophrastus, is open to doubt.

[25] See B. viii. c. 83.

[26] It was the nightingale that was said to be "Vox et præterea nihil;" "A voice, and nothing else."

[27] As there may be different opinions on the meaning of the various parts of this passage, it is as well to transcribe it for the benefit of the reader, the more especially as, contrary to his usual practice, Pliny is here in a particularly discursive mood. "Nunc continuo spiritu trahitur in longum, nunc variatur inflexo, nunc distinguitur conciso, copulatur intorto, promittitur revocato, infuscatur ex inopinato, interdum et secum ipse murmurat, plenus, gravis, acutus, creber, extentus; ubi visum est, vibrans, summus, medius, imus."

breath, it will prolong its note, and then at another, will vary it with different inflexions; then, again, it will break into distinct chirrups, or pour forth an endless series of roulades. Then it will warble to itself, while taking breath, or else disguise its voice in an instant; while sometimes, again, it will twitter to itself, now with a full note, now with a grave, now again sharp, now with a broken note, and now with a prolonged one. Sometimes, again, when it thinks fit, it will break out into quavers, and will run through, in succession, alto, tenor, and bass: in a word, in so tiny a throat is to be found all the melody that the ingenuity of man has ever discovered through the medium of the invention of the most exquisite flute: so much so, that there can be no doubt it was an infallible presage of his future sweetness as a poet, when one of these creatures perched and sang on the infant lips of the poet Stesichorus.

That there may remain no doubt that there is a certain degree of art in its performances, we may here remark that every bird has a number of notes peculiar to itself; for they do not, all of them, have the same, but each, certain melodies of its own. They vie with one another, and the spirit with which they contend is evident to all. The one that is vanquished, often dies in the contest, and will rather yield its life than its song. The younger birds are listening in the meantime, and receive the lesson in song from which they are to profit. The learner hearkens with the greatest attention, and repeats what it has heard, and then they are silent by turns; this is understood to be the correction of an error on the part of the scholar, and a sort of reproof, as it were, on the part of the teacher. Hence it is that nightingales fetch as high a price as slaves, and, indeed, sometimes more than used formerly to be paid for a man in a suit of armour.

I know that on one occasion six thousand sesterces[28] were paid for a nightingale, a white one it is true, a thing that is hardly ever to be seen, to be made a present of to Agrippina, the wife of the Emperor Claudius. A nightingale has been often seen that will sing at command, and take alternate parts with the music that accompanies it; men, too, have been found who could imitate its note with such exactness, that it would be impossible to tell the difference, by merely putting water in a

[28] 1227 francs, Ajasson says.

reed held crosswise, and then blowing into it, a languette being first inserted, for the purpose of breaking the sound and rendering it more shrill.[29] But these modulations, so clever and so artistic, begin gradually to cease at the end of the fifteen days; not that you can say, however, that the bird is either fatigued or tired of singing; but, as the heat increases, its voice becomes altogether changed, and possesses no longer either modulation or variety of note. Its colour, too, becomes changed, and at last, throughout the winter, it totally disappears. The tongue of the nightingale is not pointed at the tip, as in other birds. It lays at the beginning of the spring, six eggs at the most.

CHAP. 44.—THE MELANCORYPHUS, THE ERITHACUS, AND THE PHŒNICURUS.

The change is different that takes place in the ficedula,[30] for this bird changes its shape as well as its colour. "Ficedula" is the name by which it is called in autumn, but not after that period; for then it is called "melancoryphus."[31] In the same manner, too, the erithacus[32] of the winter is the "phœnicurus" of the summer. The hoopoe also, according to the poet Æschylus, changes its form; it is a bird that feeds upon filth[33] of all kinds, and is remarkable for its twisted top-knot, which it can contract or elevate at pleasure along the top of the head.

CHAP. 45.—THE ŒNANTHE, THE CHLORION, THE BLACKBIRD, AND THE IBIS.

The œnanthe,[34] too, is a bird that has stated days for its re-

[29] Something very similar to this, we often see practised by the water-warblers in our streets.

[30] Cuvier supposes that this is one of the fly-catchers; the "Muscicapa atricapilla" of Linnæus, which changes in appearance entirely after the breeding season.

[31] The "black-head."

[32] Cuvier thinks that this is the wall nightingale, the Motacilla phœnicurus of Linnæus, which is not seen in winter. On the other hand, the Motacilla rubecula of Linnæus, or red-throat, is only seen during the winter, and being like the other bird, may have been taken for it, and named "phœnicurus."

[33] This is not the case. Aristotle only says that it builds its nest of human ordure; a story probably without any foundation, but still prevalent among the French peasantry.

[34] It has not been identified with precision. Pliny, B. xviii. c. 69 calls

treat. At the rising of Sirius it conceals itself, and at the setting of that star comes forth from its retreat: and this it does, a most singular thing, exactly upon both those days. The chlorion,[35] also, the body of which is yellow all over, is not seen in the winter, but comes out about the summer solstice.

(30.) The blackbird is found in the vicinity of Cyllene, in Arcadia, with white[36] plumage; a thing that is the case nowhere else. The ibis, in the neighbourhood of Pelusium[37] only is black, while in all other places it is white.

CHAP. 46. (31.)—THE TIMES OF INCUBATION OF BIRDS.

The birds that have a note, with the exception of those previously mentioned,[38] do not by any chance produce their young before the vernal or after the autumnal equinox. As to the broods produced before the summer solstice, it is very doubtful if they will survive, but those hatched after it thrive well.

CHAP. 47. (32.)—THE HALCYONES: THE HALCYON DAYS THAT ARE FAVOURABLE TO NAVIGATION.

It is for this that the halcyon[39] is more especially remarkable; the seas, and all those who sail upon their surface, well know the days of its incubation. This bird is a little larger than a sparrow, and the greater part of its body is of an azure blue colour, with only an intermixture of white and purple in some of the larger feathers, while the neck[40] is long and slender. There is one kind that is remarkable for its larger size

it a small bird. Some make it the popinjay; others, with more probability, the lapwing. Horace, B. iii. Ode 27, mentions it as the parra, a bird of ill omen.

[35] The Oriolus luteus, or witwall, according to Linnæus.

[36] White blackbirds (if we may employ the paradox) are a distinct variety, according to Cuvier, to be found in various countries, though but rarely.

[37] This is from Herodotus, but it is incorrect. The black, or rather green ibis, Cuvier says, the Scolopax falcinellus of Linnæus, is found not only near Pelusium, but all over the south of Europe.

[38] He alludes to the nightingale, mentioned in c. 43.

[39] The king-fisher, or Alcedo ispida of Linnæus. There is no truth whatever in this favourite story of the ancients.

[40] In copying from Aristotle, he has put "collum," by mistake, for "rostrum," the "beak."

and its note; the smaller ones are heard singing in the reed-beds. It is a thing of very rare occurrence to see a halcyon, and then it is only about the time of the setting of the Vergiliæ, and the summer and winter solstices; when one is sometimes to be seen to hover about a ship, and then immediately disappear. They hatch their young at the time of the winter solstice, from which circumstance those days are known as the "halcyon days:" during this period the sea is calm and navigable, the Sicilian sea in particular. They make their nest during the seven days before the winter solstice, and sit the same number of days after. Their nests[41] are truly wonderful; they are of the shape of a ball slightly elongated, have a very narrow mouth, and bear a strong resemblance to a large sponge. It is impossible to cut them asunder with iron, and they are only to be broken with a strong blow, upon which they separate, just like foam of the sea when dried up. It has never yet been discovered of what material they are made; some persons think that they are formed of sharp fish-bones, as it is on fish that these birds live. They enter rivers also; their eggs are five in number.

CHAP. 48.—OTHER KINDS OF AQUATIC BIRDS.

The sea-mew also builds its nest in rocks, and the diver[42] in trees as well. These birds produce three at the very most; the sea-mew in summer, the diver at the beginning of spring.

CHAP. 49. (33.)—THE INSTINCTIVE CLEVERNESS DISPLAYED BY BIRDS IN THE CONSTRUCTION OF THEIR NESTS. THE WONDERFUL WORKS OF THE SWALLOW. THE BANK-SWALLOW.

The form of the nest built by the halcyon reminds me also of the instinctive cleverness displayed by other birds; and, indeed, in no respect is the ingenuity of birds more deserving of our admiration. The swallow builds its nest of mud, and strengthens it with straws. If mud happens to fail, it soaks itself with a quantity of water, which it then shakes from off its feathers into the dust. It lines the inside of the nest with

[41] This bird in reality builds no nest, but lays its eggs in holes on the water side. The objects taken for its nest are a zoophyte called *halcyonium* by Linnæus, as Cuvier informs us, and similar in shape to a nest.

[42] Or didapper.

soft feathers and wool, to keep the eggs warm, and in order that the nest may not be hard and rough to its young when hatched. It divides the food among its offspring with the most rigid justice, giving it first to one and then to another. With a remarkable notion of cleanliness, it throws out of the nest the ordure of the young ones, and when they have grown a little older, teaches them how to turn round, and let it fall outside of the nest.

There is another[43] kind of swallow, also, that frequents the fields and the country; its nest is of a different shape, though of the same materials, but it rarely builds it against houses. The nest has its mouth turned straight upwards, and the entrance to it is long and narrow, while the body is very capacious. It is quite wonderful what skill is displayed in the formation of it, for the purpose of concealing the young ones, and of presenting a soft surface for them to lie upon. At the Heracleotic Mouth of the Nile in Egypt, the swallows present an insuperable obstacle to the inroads of that river, in the embankment which is formed by their nests in one continuous line, nearly a stadium in length; a thing that could not possibly have been effected by the agency of man. In Egypt, too, near the city of Coptos, there is an island sacred to Isis. In the early days of spring, the swallows strengthen the angular corner of this island with chaff and straw, thus fortifying it in order that the river may not sweep it away. This work they persevere in for three days and nights together, with such unremitting labour, that it is a well-known fact that many of them die with their exertions. This, too, is a toil which recurs regularly for them every year.

There is, again, a third kind[44] of swallow, which makes holes in the banks of rivers, to serve for its nest. The young of these birds, reduced to ashes, are a good specific against mortal maladies of the throat, and tend to cure many other diseases of the human body. These birds do not build nests, and they take care to migrate a good many days before, if it so happens that the rise of the river is about to reach their holes.

[43] The first is the common chimney swallow. This latter one, Cuvier says, is either the window swallow, the Hirundo urbica of Linnæus, or else the martinet, the Hirundo apus of Linnæus.

[44] The bank swallow, or Hirundo riparia of Linnæus.

CHAP. 50.—THE ACANTHYLLIS AND OTHER BIRDS.

Belonging to the genus of birds known as the "vitiparræ," there is one[45] whose nest is formed of dried moss,[46] and is in shape so exactly like a ball, that it is impossible to discover the mouth of it. The bird, also, that is known as the acanthyllis,[47] makes its nest of a similar shape, and interweaves it with pieces of flax. The nest of one of the woodpeckers, very much like a cup in shape, is suspended by a twig from the end of the branch of a tree, so that no quadruped may be able to reach it. It is strongly asserted, that the witwall[48] sleeps suspended by its feet, because it fancies that by doing so it is in greater safety. A thing, indeed, that is well-known of them all, is the fact that, in a spirit of foresight, they select the projecting branches of trees that are sufficiently strong, for the purpose of supporting their nests, and then arch them over to protect them from the rain, or else shield them by means of the thickness of the foliage.

In Arabia there is a bird known as the "cinnamolgus."[49] It builds its nest with sprigs of cinnamon; and the natives knock them down with arrows loaded with lead, in order to sell them. In Scythia there is a bird, the size of the otis, which produces two young ones always, in a hare's skin suspended[50] from the top branches of a tree. Pies, when they have observed a person steadily gazing at their nest, will immediately remove their eggs to another place. This is said to be accomplished in a truly wonderful manner, by such birds as have not toes adapted for holding and removing their eggs. They lay a twig upon two eggs, and then solder them to it by means of a glutinous matter secreted from their body; after which, they pass their neck between the eggs, and so forming an equipoise, convey them to another place.

[45] Cuvier thinks that this is either the *remiz*, the Parus pendulinus of Linnæus, or else the moustache, the Parus biarmicus of Linnæus.

[46] Not moss, Cuvier says, but blades of grass, and the silken fibres of the poplar and other aquatic trees.

[47] Cuvier thinks that it is the same bird as the vitiparra of Pliny.

[48] Galgulus.

[49] This story, in all its extravagance, is related first by Herodotus, and then by Aristotle, who has reduced it to its present dimensions, as given by Pliny.

[50] Cuvier suggests that, if at all based upon truth, this may have been the case in one instance, and then ascribed to the whole species.

CHAP. 51.—THE MEROPS—PARTRIDGES.

No less, too, is the shrewdness displayed by those birds which make their nests upon the ground, because, from the extreme weight of their body, they are unable to fly aloft. There is a bird, known as the "merops,"[51] which feeds its parents in their retreat: the colour of the plumage on the inside is pale, and azure without, while it is of a somewhat reddish hue at the extremity of the wings: this bird builds its nest in a hole which it digs to the depth of six feet.

Partridges[52] fortify their retreat so well with thorns and shrubs, that it is effectually protected against beasts of prey. They make a soft bed for their eggs by burying them in the dust, but do not hatch them where they are laid: that no suspicion may arise from the fact of their being seen repeatedly about the same spot, they carry them away to some other place. The females also conceal themselves from their mates, in order that they may not be delayed in the process of incubation, as the males, in consequence of the warmth of their passions, are apt to break the eggs. The males, thus deprived of the females, fall to fighting among themselves; and it is said that the one that is conquered, is treated as a female by the other. Trogus Pompeius tells us that quails and dunghill cocks sometimes do the same; and adds, that wild partridges, when newly caught, or when beaten by the others, are trodden promiscuously by the tame ones. Through the very pugnacity thus inspired by the strength of their passions, these birds are often taken, as the leader of the whole covey frequently advances to fight with the decoy-bird of the fowler; as soon as he is taken, another and then another will advance, all of which are caught in their turn. The females, again, are caught about the pairing season; for then they will come forward to quarrel with the female decoy-bird of the fowler, and so drive her away. Indeed, in no other animal is there any such susceptibility in the sexual feelings; if the female only stands opposite to the male, while the wind is blowing from that direction, she[53] will become impregnated; and during this time she is in a state of the

[51] The Merops apiaster of Linnæus, or bee-eater.

[52] Cuvier says that the red partridge, the Tetrao rufus of Linnæus, is meant.

[53] The same wonderful story is told by Aristotle, Hist. Anim. B. v. c. 5, and by Ælian, Hist. Anim. B. xvii. c. 15.

greatest excitement, the beak being wide open and the tongue thrust out. The female will conceive also from the action of the air, as the male flies above her, and very often from only hearing his voice: indeed, to such a degree does passion get the better of her affection for her offspring, that although at the moment she is sitting furtively and in concealment, she will, if she perceives the female decoy-bird of the fowler approaching her mate, call him back, and summon him away from the other, and voluntarily submit to his advances.

Indeed, these birds are often carried away by such frantic madness, that they will settle, being quite blinded by fear,[84] upon the very head of the fowler. If he happens to move in the direction of the nest, the female bird that is sitting will run and throw herself before his feet, pretending to be overheavy, or else weak in the loins, and then, suddenly running or flying for a short distance before him, will fall down as though she had a wing broken, or else her feet; just as he is about to catch her, she will then take another fly, and so keep baffling him in his hopes, until she has led him to a considerable distance from her nest. As soon as she is rid of her fears, and free from all maternal disquietude, she will throw herself on her back in some furrow, and seizing a clod of earth with her claws, cover herself all over. It is supposed that the life of the partridge extends to sixteen years.

CHAP. 52. (34.)—PIGEONS.

Next to the partridge, it is in the pigeon that similar tendencies are to be seen in the same respect: but then, chastity is especially observed by it, and promiscuous intercourse is a thing quite unknown. Although inhabiting a domicile in common with others, they will none of them violate the laws of conjugal fidelity: not one will desert its nest, unless it is either widower or widow. Although, too, the males are very imperious, and sometimes even extremely exacting, the females put up with it: for in fact, the males sometimes suspect them of infidelity, though by nature they are incapable of it. On such occasions the throat of the male seems quite choked with indignation, and he inflicts severe blows with the beak: and

[84] "Metu." Aristotle says, by sexual passion. The reading is probably corrupt here.

then afterwards, to make some atonement, he falls to billing, and by way of pressing his amorous solicitations, sidles round and round the female with his feet. They both of them manifest an equal degree of affection for their offspring; indeed, it is not unfrequently that this is a ground for correction, in consequence of the female being too slow in going to her young. When the female is sitting, the male renders her every attention that can in any way tend to her solace and comfort. The first thing that they do is to eject from the throat some saltish earth, which they have digested, into the mouths of the young ones, in order to prepare them in due time to receive their nutriment. It is a peculiarity of the pigeon and of the turtle-dove, not to throw back the neck when drinking, but to take in the water at a long draught, just as beasts of burden do.

(35.) We read in some authors that the ring-dove lives so long as thirty years, and sometimes as much as forty, without any other inconvenience than the extreme length of the claws, which with them, in fact, is the chief mark of old age; they can be cut, however, without any danger. The voice of all these birds is similar, being composed of three notes, and then a mournful noise at the end. In winter they are silent, and they only recover their voice in the spring. Nigidius expresses it as his opinion that the ring-dove will abandon the place, if she hears her name mentioned under the roof where she is sitting on her eggs: they hatch their young just after [55] the summer solstice. Pigeons and turtle-doves live eight years.

(36.) The sparrow, on the other hand, which has an equal degree of salaciousness, is short-lived in the extreme. It is said that the male does not live beyond a year; and as a ground for this belief, it is stated that at the beginning of spring, the black marks are never to be seen upon the beak which began to appear in the summer. The females, however, are said to live somewhat longer.

Pigeons have even a certain appreciation of glory. There is reason for believing that they are well aware of the colours of their plumage, and the various shades which it presents, and even in their very mode of flying they court our applause, as they cleave the air in every direction. It is, indeed, through

[55] See B. xviii. c. 68; where he says that the summer solstice is past at the time of the incubation.

this spirit of ostentation that they are handed over, fast bound as it were, to the hawk; for from the noise that they make, which, in fact, is only produced by the flapping of their wings, their long feathers become twisted and disordered: otherwise, when they can fly without any impediment, they are far swifter in their movements than the hawk. The robber, lurking amid the dense foliage, keeps on the look-out for them, and seizes them at the very moment that they are indulging their vain-glorious self-complaisance.

(37.) It is for this reason that it is necessary to keep along with the pigeons the bird that is known as the "tinnunculus;"[56] as it protects them, and by its natural superiority scares away the hawk; so much so, indeed, that the hawk will vanish at the very sight of it, and the instant it hears its voice. Hence it is that the pigeons have an especial regard for this bird; and, it is said, if one of these birds is buried at each of the four corners of the pigeon-house in pots that have been newly glazed, the pigeons will not change their abode—a result which has been obtained by some by cutting a joint of their wings with an instrument of gold; for if any other were used, the wounds would be not unattended with danger.—The pigeon in general may be looked upon as a bird fond of change; they have the art, too, among themselves of gaining one another over, and so seducing their companions: hence it is that we frequently find them return attended by others which they have enticed away.

CHAP. 53.—WONDERFUL THINGS DONE BY THEM; PRICES AT WHICH THEY HAVE BEEN SOLD.

In addition to this, pigeons have acted as messengers in affairs of importance. During the siege of Mutina, Decimus Brutus, who was in the town, sent despatches to the camp of the consuls[57] fastened to pigeons' feet. Of what use to Antony then were his intrenchments, and all the vigilance of the be-

[56] Cuvier takes this to be the kestril, or Falco tinnunculus of Linnæus, and considers it to be synonymous with the cenchris, mentioned in c. 73, and in B. xxix. c. 6, though Pliny does not seem to be aware of the identity.

[57] Hirtius and Pansa. Frontinus, B. iii. c. 13, says that pigeons were sent by Hirtius to Brutus. At the present day, letters are sent fastened under their wings.

sieging army? his nets, too, which he had spread in the river, while the messenger of the besieged was cleaving the air?

Many persons have quite a mania for pigeons—building towns for them on the top of their roofs, and taking a pleasure in relating the pedigree and noble origin of each. Of this there is an ancient instance that is very remarkable; L. Axius, a Roman of the equestrian order, shortly before the Civil War of Pompeius, sold a single pair for four hundred denarii, as we learn from the writings of M. Varro.[58] Countries even have gained renown for their pigeons; it is thought that those of Campania attain the largest size.

CHAP. 54. (38.)—DIFFERENT MODES OF FLIGHT AND PROGRESSION IN BIRDS.

The flight of the pigeon also leads me to consider that of other birds as well. All other animals have one determinate mode of progression, which in every kind is always the same; it is birds alone that have two modes of moving—the one on the ground, the other in the air. Some of them walk, such as the crow, for instance; some hop, as the sparrow and the blackbird; some, again, run, as the partridge and the woodhen; while others throw one foot before the other, the stork and the crane, for instance. Then again, in their flight, some birds expand their wings, and, poising themselves in the air, only move them from time to time; others move them more frequently, but then only at the extremities; while others expand them so as to expose the whole of the side. On the other hand, some fly with the greater part of the wings kept close to the side; and some, after striking the air once, others twice, make their way through it, as though pressing upon it enclosed beneath their wings; other birds dart aloft in a vertical direction, others horizontally, and others come falling straight downwards. You would almost think that some had been hurled upwards with a violent effort, and that others, again, had fallen straight down from aloft; while others are seen to spring forward in their flight. Ducks alone, and the other birds of that kind, in an instant raise themselves aloft, taking a spring from the spot where they stand straight upwards towards the heavens; and this they can do from out of the water even; hence it is that they are the only birds that can make their

[58] B. iii. c. 7.

escape from the pitfalls which we employ for the capture of wild beasts.

The vulture and the heavier wild birds can only fly after taking a run, or else by commencing their flight from an elevated spot. They use the tail by way of rudder. There are some birds that are able to see all around them; others, again, have to turn the neck to do so. Some of them eat what they have seized, holding it in their feet. Many, as they fly, utter some cry; while on the other hand, many, in their flight, are silent. Some fly with the breast half upright, others with it held downwards, others fly obliquely, or else side-ways, and others following the direction of the bill. Some, again, are borne along with the head upwards; indeed the fact is, that if we were to see several kinds at the same moment, we should not suppose that they have to make their way in the same element.

CHAP. 55. (39.)—THE BIRDS CALLED APODES, OR CYPSELI.

Those birds which are known as "apodes"[59] fly the most of all, because they are deprived of the use of their feet. By some persons they are called "cypseli." They are a species of swallow which build their nests in the rocks, and are the same birds that are to be seen everywhere at sea; indeed, however far a ship may go, however long its voyage, and however great the distance from land, the apodes never cease to hover around it. Other birds settle and come to a stand, whereas these know no repose but in the nest; they are always either on the wing or else asleep.

CHAP. 56. (40.)—RESPECTING THE FOOD OF BIRDS—THE CAPRIMULGUS, THE PLATEA.

The instincts, also, of birds are no less varied, and more especially in relation to their food. "Caprimulgus"[60] is the name of a bird, which is to all appearance a large blackbird; it thieves by night, as it cannot see during the day. It enters the folds of the shepherds, and makes straight for the udder of the she-goat, to suck the milk. Through the injury thus inflicted the udder shrivels away, and the goat that has been thus deprived of its milk, is afflicted with incipient blindness.

[59] "Without feet." This was supposed to be the case with the martinet, the Hirundo apus of Linnæus.

[60] Or "goat-sucker." The Caprimulgus Europæus of Linnæus.

"Platea"[61] is the name of another, which pounces upon other birds when they have dived in the sea, and, seizing the head with its bill, makes them let go their prey. This bird also swallows and fills itself with shell-fish, shells and all; after the natural heat of its crop has softened them, it brings them up again, and then picking out the shells from the rest, selects the parts that are fit for food.

CHAP. 57. (41.)—THE INSTINCTS OF BIRDS—THE CARDUELIS, THE TAURUS, THE ANTHUS.

The farm-yard fowls have also a certain notion of religion; upon laying an egg they shudder all over, and then shake their feathers; after which they turn round and purify[62] themselves, or else hallow[63] themselves and their eggs with some stalk or other. (42.) The carduelis,[64] which is the very smallest bird of any, will do what it is bid, not only with the voice but with the feet as well, and with the beak, which serves it instead of hands. There is one bird, found in the territory of Arelate, that imitates the lowing of oxen, from which circumstance it has received the name of "taurus."[65] In other respects it is of small size. Another bird, called the "anthus,"[66] imitates the neighing of the horse; upon being driven from the pasture by the approach of the horses, it will mimic their voices—and this is the method it takes of revenging itself.

CHAP. 58.—BIRDS WHICH SPEAK—THE PARROT.

But above all, there are some birds that can imitate the human voice; the parrot, for instance, which can even converse. India sends us this bird, which it calls by the name of "sittaces;"[67] the body is green all over, only it is marked with

[61] Cuvier says that this is the spoon-bill, the Platalea leucorodea of Linnæus. Some suppose it to be the bittern.

[62] By nestling in the dust. Throwing dust over the body was one of the ancient modes of purification.

[63] "Lustrant," "perform a lustration." This was done by the Romans with a branch of laurel or olive, and sometimes bean-stalks were used.

[64] The linnet, probably.

[65] The "bull." This cannot possibly be the bittern, as some have suggested, for that is a large bird.

[66] Supposed to be the Motacilla flava of Linnæus, the spring wagtail.

[67] Hence the Latin name "psittacus." From this, Cuvier thinks that the first known among these birds to the Greeks and Romans, was the green perroquet with a ringed neck, the Psittacus Alexandri of Linnæus.

a ring of red around the neck. It will duly salute an emperor, and pronounce the words it has heard spoken; it is rendered especially frolicsome under the influence of wine. Its head is as hard as its beak; and this, when it is being taught to talk, is beaten with a rod of iron, for otherwise it is quite insensible to blows. When it lights on the ground it falls upon its beak, and by resting upon it makes itself all the lighter for its feet, which are naturally weak.

CHAP. 59.—THE PIE WHICH FEEDS ON ACORNS.

The magpie is much less famous for its talking qualities than the parrot, because it does not come from a distance, and yet it can speak with much more distinctness. These birds love to hear words spoken which they can utter; and not only do they learn them, but are pleased at the task; and as they con them over to themselves with the greatest care and attention, make no secret of the interest they feel. It is a well-known fact, that a magpie has died before now, when it has found itself mastered by a difficult word that it could not pronounce. Their memory, however, will fail them if they do not from time to time hear the same word repeated; and while they are trying to recollect it, they will show the most extravagant joy, if they happen to hear it. Their appearance, although there is nothing remarkable in it, is by no means plain; but they have quite sufficient beauty in their singular ability to imitate the human speech.

It is said, however, that it is only the kind[68] of pie which feeds upon acorns that can be taught to speak; and that among these, those which[69] have five toes on each foot can be taught with the greatest facility; but in their case even, only during the first two years of their life. The magpie has a broader tongue than is usual with most other birds; which is the case also with all the other birds that can imitate the human voice; although some individuals of almost every kind have the faculty of doing so.

Agrippina, the wife of Claudius Cæsar, had a thrush that could imitate human speech, a thing that was never known before. At the moment that I am writing this, the young

[68] Cuvier says that this is the jay, the Corvus glandarius of Linnæus; but that they are not more apt at speaking than the other kinds.

[69] Cuvier remarks, that these can only be monstrosities.

Cæsars[70] have a starling and some nightingales that are being taught to talk in Greek and Latin; besides which, they are studying their task the whole day, continually repeating the new words that they have learnt, and giving utterance to phrases even of considerable length. Birds are taught to talk in a retired spot, and where no other voice can be heard, so as to interfere with their lesson; a person sits by them, and continually repeats the words he wishes them to learn, while at the same time he encourages them by giving them food.

CHAP. 60. (43.)—A SEDITION THAT AROSE AMONG THE ROMAN PEOPLE, IN CONSEQUENCE OF A RAVEN SPEAKING.

Let us do justice, also, to the raven, whose merits have been attested not only by the sentiments of the Roman people, but by the strong expression, also, of their indignation. In the reign of Tiberius, one of a brood of ravens that had bred on the top of the temple of Castor,[71] happened to fly into a shoemaker's shop that stood opposite: upon which, from a feeling of religious veneration, it was looked upon as doubly recommended by the owner of the place. The bird, having been taught to speak at an early age, used every morning to fly to the Rostra, which look towards the Forum; here, addressing each by his name, it would salute Tiberius, and then the Cæsars[72] Germanicus and Drusus, after which it would proceed to greet the Roman populace as they passed, and then return to the shop: for several years it was remarkable for the constancy of its attendance. The owner of another shoemaker's shop in the neighbourhood, in a sudden fit of anger killed the bird, enraged, as he would have had it appear, because with its ordure it had soiled some shoes of his. Upon this, there was such rage manifested by the multitude, that he was at once driven from that part of the city, and soon after put to death. The funeral, too, of the bird was celebrated with almost endless obsequies; the body was placed upon a litter carried upon the shoulders of two Æthiopians, preceded by a piper, and borne to the pile with garlands of every size and description. The pile was erected on the right-hand side of the Appian Way, at the second milestone from the City, in the field gene-

[70] Britannicus, the son of Claudius, and Nero, his stepson.
[71] In the eighth region of the city.
[72] The nephew and son of Tiberius.

rally known as the "field of Rediculus."[73] Thus did the rare talent of a bird appear a sufficient ground to the Roman people for honouring it with funeral obsequies, as well as for inflicting punishment on a Roman citizen; and that, too, in a city in which no such crowds had ever escorted the funeral of any one out of the whole number of its distinguished men, and where no one had been found to avenge the death of Scipio Æmilianus,[74] the man who had destroyed Carthage and Numantia. This event happened in the consulship of M. Servilius and Caius Cestius, on the fifth day[75] before the calends of April.

At the present day also, the moment that I am writing this, there is in the city of Rome a crow which belongs to a Roman of equestrian rank, and was brought from Bætica. In the first place, it is remarkable[76] for its colour, which is of the deepest black, and at the same time it is able to pronounce several connected words, while it is repeatedly learning fresh ones. Recently, too, there has been a story told about Craterus, surnamed Monoceros,[77] in Erizená,[78] a country of Asia, who was in the habit of hunting with the assistance of ravens, and used to carry them into the woods, perched on the tuft of his helmet and on his shoulders. The birds used to keep on the watch for game, and raise it; and by training he had brought this art to such a pitch of perfection, that even the wild ravens would attend him in a similar manner when he went out. Some authors have thought the following circumstance deserving of remembrance:—A crow that was thirsty was seen heaping stones into the urn on a monument, in which there was some rain-water which it could not reach: and so, being afraid to go down to the water, by thus accumulating the stones, it

[73] Festus says that the "fane of Rediculus was without the Porta Capena; it was so called because Hannibal, when on the march from Capua, turned back (redierit) at that spot, being alarmed at certain portentous visions."

[74] P. Cornelius Scipio Æmilianus Africanus Minor, the younger son of L. Æmilius Paulus, the conqueror of Macedonia. It is doubtful whether he died a natural death, or was privately assassinated by the partisans of the Gracchi. His wife, Cornelia, and his mother, Sempronia, were suspected by some persons.

[75] 28th March.

[76] One would hardly think that there was anything wonderful in a crow being *very* black.

[77] The "one-horned."

[78] Most probably in Asia Minor, and not Eriza in India.

caused as much water to come within its reach as was necessary to satisfy its thirst.

CHAP. 61. (44.)—THE BIRDS OF DIOMEDES.

Nor yet must I pass by the birds[79] of Diomedes in silence. Juba calls these birds "cataractæ," and says that they have teeth and eyes of a fiery colour, while the rest of the body is white: that they always have two chiefs, the one to lead the main body, the other to take charge of the rear; that they excavate holes with their bills, and then cover them with hurdles, which they cover again with the earth that has been thus thrown up; that it is in these places they hatch their young; that each of these holes has two outlets; that one of them looks towards the east, and that by it they go forth to feed, returning by the one which looks towards the west; and that when about to ease themselves, they always take to the wing, and fly against the wind. In one spot only throughout the whole earth are these birds to be seen, in the island, namely, which we have mentioned[80] as famous for the tomb and shrine of Diomedes, lying over against the coast of Apulia: they bear a strong resemblance to the coot. When strangers who are barbarians arrive on that island, they pursue them with loud and clamorous cries, and only show courtesy to Greeks by birth; seeming thereby, with a wonderful discernment, to pay respect to them as the fellow-countrymen of Diomedes. Every day they fill their throats, and cover their feathers, with water, and so wash and purify the temple there. From this circumstance arises the fable[81] that the companions of Diomedes were metamorphosed into these birds.

CHAP. 62. (45.)—ANIMALS THAT CAN LEARN NOTHING.

We ought not to omit, while we are speaking of instincts, that among birds the swallow[82] is quite incapable of being

[79] Cuvier is inclined to think that the Anas tadorna approaches most nearly the description given here. From Ovid's description of their hard and pointed bills and claws, it would appear that a petrel (Procellaria), or else a white heron (Ardea garzetta), is intended; but these birds, he remarks, do not make holes in the earth. Linnæus has given the name of Diomedea exulans to the albatross, a bird of the Antarctic seas, which cannot have been known to the ancients.

[80] B. iii. c. 29.

[81] See Ovid's Met. B. xiii.

[82] Albertus Magnus says that swallows *can* be tamed.

taught, and among land animals the mouse; while on the other hand, the elephant does what it is ordered, the lion submits to the yoke, and the sea-calf and many kinds of fishes are capable of being tamed.

CHAP. 63. (46.)—THE MODE OF DRINKING WITH BIRDS. THE PORPHYRIO.

Birds drink by suction; those which have a long neck taking their drink in a succession of draughts, and throwing the head back, as though they were pouring the water down the throat. The porphyrio[83] is the only bird that seems to bite at the water as it drinks. The same bird has also other peculiarities of its own; for it will every now and then dip its food in the water, and then lift it with its foot to its bill, using it as a hand. Those that are the most esteemed are found in Commagene. They have beaks and very long legs, of a red colour.

CHAP. 64. (47.)—THE HÆMATOPOUS.

There are the same characteristics in the hæmatopous[84] also, a bird of much smaller size, although standing as high on the legs. It is a native of Egypt, and has three toes on each foot; flies[85] forming its principal food. If brought to Italy, it survives for a few days only.

CHAP. 65.—THE FOOD OF BIRDS.

All the heavy birds are frugivorous; while those with a higher flight feed upon flesh only. Among the aquatic birds, the divers[86] are in the habit of devouring what the other birds have disgorged.

CHAP. 66.—THE PELICAN.

The pelican is similar in appearance to the swan, and it would be thought that there was no difference between them

[83] The Fulica porphyrio of Linnæus, the Poule sultane of Buffon.

[84] Literally, "the blood-red foot." Cuvier says that this description may apply to the sea-pie or oyster-eater, the Hæmatopus ostralegus of Linnæus, or else the long-legged plover, the Charadrius himantopus of Linnæus, but most probably the latter, more especially if the reading here is "himantopus," as some editions have it.

[85] "Muscæ," "flies," is a mistake of the copyists, Cuvier thinks, for "musculi," "mussels."

[86] More especially the Larus parasiticus, Cuvier says.

whatever, were it not for the fact that under the throat there is a sort of second crop, as it were. It is in this that the ever-insatiate animal stows everything away, so much so, that the capacity of this pouch is quite astonishing. After having finished its search for prey, it discharges bit by bit what it has thus stowed away, and reconveys it by a sort of ruminating process into its real stomach. The part of Gallia that lies nearest to the Northern Ocean produces this bird.

CHAP. 67.—FOREIGN BIRDS: THE PHALERIDES, THE PHEASANT, AND THE NUMIDICÆ.

In the Hercynian Forest, in Germany, we hear of a singular[87] kind of bird, the feathers of which shine at night like fire; the other birds there have nothing remarkable beyond the celebrity which generally attaches to objects situate at a distance.

(48.) The phalerides,[88] the most esteemed of all the aquatic birds, are found at Seleucia, the city of the Parthians of that name, and in Asia as well; and again, in Colchis, there is the pheasant,[89] a bird with two tufts of feathers like ears, which it drops and raises every now and then. The numidicæ[90] come from Numidia, a part of Africa: all these varieties are now to be found in Italy.

CHAP. 68.—THE PHŒNICOPTERUS, THE ATTAGEN, THE PHALACROCORAX, THE PYRRHOCORAX, AND THE LAGOPUS.

Apicius, that very deepest whirlpool of all our epicures, has informed us that the tongue of the phœnicopterus[91] is of the most exquisite flavour. The attagen,[92] also, of Ionia is a famous

[87] Dalechamps thinks that this story bears reference to the chatterer (the Ampelis garrulus of Linnæus), the ends of certain feathers of the wings being extended, and of a vermilion colour: but Cuvier looks upon Pliny's account as almost nothing more than a poetical exaggeration.

[88] A species of duck, Cuvier thinks. From Aristophanes we learn that they were common in the markets of Athens. Cuvier suggests that it may have been the Anas galericulata of Linnæus, the Chinese teal, which the Parthians may have received from the countries lying to the east of them.

[89] "Phasiana," so called from the river Phasis.

[90] A variety of the guinea fowl; probably the Numida Meleagris of Linnæus.

[91] Literally, the "red-wing." The modern flamingo.

[92] Buffon thinks that this is the grouse of the English, the Tetrao Scoticus of the naturalists; but Cuvier is of opinion that it is either the common wood-cock, the Tetrao bonasia of Linnæus, or else the wood-cock with

bird; but although it has a voice at other times, it is mute in captivity. It was formerly[93] reckoned among the rare birds, but at the present day it is found in Gallia, Spain, and in the Alps even; which is also the case with the phalacrocorax,[94] a bird peculiar to the Balearic Isles, as the pyrrhocorax,[95] a black bird with a yellow bill, is to the Alps, and the lagopus,[96] which is esteemed for its excellent flavour. This last bird derives its name from its feet, which are covered, as it were, with the fur of a hare, the rest of the body being white, and the size of a pigeon. It is not an easy matter to taste it out of its native country, as it never becomes domesticated, and when dead it quickly spoils.

There is another[97] bird also, which has the same name, and only differs from the quail in size; it is of a saffron colour, and is most delicate eating. Egnatius Calvinus, who was prefect there, pretends that he has seen[98] in the Alps the ibis also, a bird that is peculiar to Egypt.

CHAP. 69. (49.)—THE NEW BIRDS. THE VIPIO.

During the civil wars that took place at Bebriacum, beyond the river Padus, the "new birds"[99] were introduced into Italy —for by that name they are still known. They resemble the thrush in appearance, are a little smaller than the pigeon in

pointed tail, of the south of Europe, the Tetrao alchata of Linnæus, most probably the latter, as the male has black and blue spots on the back; a fact which may explain the joke in the "Birds" of Aristophanes, where a run-away slave who has been marked with stripes, is called an attagen. By some it is called the "red-headed hazel-hen."

[93] In allusion, perhaps, to the words of Horace, Epod. ii. 54.

Non attagen Ionicus
Jucundior, quam lecta de pinguissimis
Oliva ramis arborum.

[94] Literally, the "bald crow." Pliny, B. xi. c. 47, says that it is an aquatic bird: and naturalists generally identify it with the cormorant, the Pelecanus carbo of Linnæus.

[95] Literally, the red crow, the chocard of the Alps, the Corvus pyrrhocorax of Linnæus.

[96] The "hare's foot." Identical with the snow partridge, the Tetrao lagopus of Linnæus; it is white in winter.

[97] The same bird, Cuvier says, as seen in summer, being then of a saffron colour, with blackish spots.

[98] Cuvier remarks, that the green courlis, the Scolopax falcinellus of Linnæus, which is not improbably the real ibis of the ancients, is by no means uncommon in Italy.

[99] "Novæ aves." The grey partridge, Hardouin thinks.

size, and of an agreeable flavour. The Balearic islands also send us a porphyrio,[1] that is superior to the one previously mentioned. There the buteo, a kind of hawk, is held in high esteem for the table, as also the vipio,[2] the name given to a small kind of crane.

CHAP. 70.—FABULOUS BIRDS.

I look upon the birds as fabulous which are called "pegasi," and are said to have a horse's head; as also the griffons, with long ears and a hooked beak. The former are said to be natives of Scythia,[3] the latter of Æthiopia. The same is my opinion, also, as to the tragopan;[4] many writers, however, assert that it is larger than the eagle, has curved horns on the temples, and a plumage of iron colour, with the exception of the head, which is purple. Nor yet do the sirens[5] obtain any greater credit with me, although Dinon, the father of Clearchus, a celebrated writer, asserts that they exist in India, and that they charm men by their song, and, having first lulled them to sleep, tear them to pieces. The person, however, who may think fit to believe in these tales, may probably not refuse to believe also that dragons licked the ears of Melampodes, and bestowed upon him the power of understanding the language of birds; as also what Democritus says, when he gives the names of certain birds, by the mixture of whose blood a serpent is produced, the person who eats of which will be able to understand the language of birds; as well as the statements which the same writer makes relative to one bird in particular, known as the "galerita,"[6]—indeed, the science of augury is already too much involved in embarrassing questions, without these fanciful reveries.

There is a kind of bird spoken of by Homer as the "scops:"[7] but I cannot very easily comprehend the grotesque movements which many persons have attributed to it, when the fowler is

[1] Flamingo.

[2] See B. xi. c. 44.

[3] Scythia and Æthiopia ought to be transposed here, as the griffons were said to be monsters that guarded the gold in the mountains of Scythia, the Uralian chain, probably.

[4] Literally, the "goat Pan." Cuvier thinks that the bird here alluded to actually existed, and identifies it with the napaul, or horned pheasant of Buffon, the penelope satyra of Gmell, a bird of the north of India, and which answers the description here given by Pliny.

[5] See Ovid, Met. B. v. l. 553.

[6] A kind of crested lark.

[7] The Strix scops, probably, of Linn. See the Odyssey, B. v. l. 66.

laying snares for it; nor, indeed, is it a bird that is any longer known to exist. It will be better, therefore, to confine my relation to those the existence of which is generally admitted.

CHAP. 71. (50.)—WHO FIRST INVENTED THE ART OF CRAMMING POULTRY: WHY THE FIRST CENSORS FORBADE THIS PRACTICE.

The people of Delos were the first to cram poultry; and it is with them that originated that abominable mania for devouring fattened birds, larded with the grease of their own bodies. I find in the ancient sumptuary regulations as to banquets, that this was forbidden for the first time by a law of the consul Caius Fannius, eleven years before the Third Punic War; by which it was ordered that no bird should be served at table beyond a single pullet, and that not fattened; an article which has since made its appearance in all the sumptuary[8] laws. A method, however, has been devised of evading it, by feeding poultry upon food that has been soaked in milk: prepared in this fashion, they are considered even still more delicate. All pullets, however, are not looked upon as equally good for the purposes of fattening, and only those are selected which have a fatty skin about the neck. Then, too, come all the arts of the kitchen—that the thighs may have a nice plump appearance, that the bird may be properly divided down the back, and that poultry may be brought to such a size that a single leg shall fill a whole platter.[9] The Parthians, too, have taught their fashions to our cooks; and yet after all, in spite of their refinements in luxury, no article is found to please equally in every part, for in one it is the thigh, and in another the breast only, that is esteemed.

CHAP. 72.—WHO FIRST INVENTED AVIARIES. THE DISH OF ÆSOPUS.

The first person who invented aviaries for the reception of all kinds of birds was M. Lænius Strabo, a member of the equestrian order, who resided at Brundisium. It was in his time that we thus began to imprison animals to which Nature had assigned the heavens as their element.

(51.) But more remarkable than anything in this respect, is

[8] Those called Orchia, Didia, Oppia, Cornelia, Antia, and Julia namely.
[9] Repositoria. See B. xxxiii. c. 49. See also B. ix. c. 13.

the story of the dish of Clodius Æsopus,[10] the tragic actor, which was valued at one hundred thousand sesterces, and in which were served up nothing but birds that had been remarkable for their song, or their imitation of the human voice, and purchased, each of them, at the price of six thousand sesterces; he being induced to this folly by no other pleasure than that in these he might eat the closest imitators of man; never for a moment reflecting that his own immense fortune had been acquired by the advantages of his voice; a parent, indeed, right worthy of the son of whom we have already made mention,[11] as swallowing pearls. It would not, to say the truth, be very easy to come to a conclusion which of the two was guilty of the greatest baseness; unless, indeed, we are ready to admit that it was less unseemly to banquet upon the most costly of all the productions of Nature, than to devour[12] tongues which had given utterance to the language of man.

CHAP. 73. (52.)—THE GENERATION OF BIRDS: OTHER OVIPAROUS ANIMALS.

The generation of birds would appear to be very simple, while at the same time it has its own peculiar marvels. Indeed, there are quadrupeds as well that produce eggs, the chameleon, for instance, the lizard, and those of the serpent tribe of which we have previously spoken.[13] Of the feathered race, those which have hooked talons are comparatively unprolific; the cenchris[14] being the only one among them that lays more than four eggs. Nature has so ordained it in the birds, that the timid ones should be more prolific than those which are courageous. The ostrich, the common fowl, and the partridge, are the only birds that lay eggs in considerable numbers. Birds have two modes of coupling, the female crouching on the ground, as in the barn-door fowl, or else standing, as is the case with the crane.

CHAP. 74.—THE VARIOUS KINDS OF EGGS, AND THEIR NATURE.

Some eggs are white, as those of the pigeon and partridge,

[10] Valerius Maximus, B. ix. c. 1, tells this story of the profligate son of Æsopus.

[11] B. ix. c. 59.

[12] "Hominum linguas," Pliny says; a singularly inappropriate expression, it would appear.

[13] See B. viii. c. 37.

[14] The tinnunculus, probably, of c. 52.

for instance; others are of a pale colour, as in the aquatic birds: others, again, are dotted all over with spots, as is the case with those of the meleagris; others are red, like those of the pheasant and the cenchris. In the inside, the eggs of all birds are of two colours; those of the aquatic kind have more of the yellow than the white, and the yellow is of a paler tint than in those of other birds. Among fish, the eggs are of the same colour throughout, there being, in fact, no white. The eggs of birds are of a brittle nature, in consequence of the natural heat of the animal, while those of serpents are supple, in consequence of their coldness, and those of fish soft, from their natural humidity. Again, the eggs of aquatic birds are round, while those of most other kinds are elongated, and taper to a point. Eggs are laid with the round end foremost, and at the moment that they are laid the shell is soft, but it immediately grows hard, as each portion becomes exposed to the air. Horatius Flaccus[15] expresses it as his opinion that those eggs which are of an oblong shape are of the most agreeable flavour. The rounder eggs are those which produce[16] the female, the others the male. The umbilical[17] cord is in the upper part of the egg, like a drop floating on the surface in the shell.

(53.) There are some birds that couple at all seasons of the year, barn-door fowls, for instance; they lay, too, at all times, with the exception of two months at mid-winter. Pullets lay more eggs than the older hens, but then they are smaller. In the same brood those chickens are the smallest that are hatched the first and the last. These animals, indeed, are so prolific, that some of them will lay as many as sixty eggs, some daily, some twice a day, and some in such vast numbers that they have been known to die from exhaustion. Those known as the "Adrianæ,"[18] are the most esteemed. Pigeons sit ten times a year, and some of them eleven, and in Egypt during the month of the winter solstice even. Swallows,

[15] B. ii. Sat. 4, l. 12. "Longa quibus facies ovis erit, illo memento, Ut succi melioris, et ut magis alba rotundis."

[16] Aristotle says just the reverse: but Hardouin thinks that the passage in Aristotle has been corrupted.

[17] This, Cuvier says, in reality is not the umbilical cord, but the *chalasis*, a little transparent and gelatinous ligament, by which the yolk is suspended like a globe. The true umbilical cord of the bird only makes its appearance after an incubation of some days.

[18] Produced in the territory of Adria. See B. iii. c. 18.

blackbirds, ring-doves, and turtle-doves sit twice a year, most other birds only once. Thrushes make their nests of mud, in the tops of trees, almost touching one another, and lay during the time of their retirement. The egg comes to maturity in the ovary ten days after treading; but if the hen or pigeon is tormented by pulling out the feathers, or by the infliction of any injury of a similar nature, the maturing of the egg is retarded.

In the middle of the yolk of every egg there is what appears to be a little drop[19] of blood; this is supposed to be the heart of the chicken, it being the general belief that that part is formed the first in every animal: at all events, while in the egg this speck is seen to throb and palpitate. The body of the animal itself is formed from the white fluid[20] in the egg; while the yellow part constitutes its food. The head in every kind, while in the shell, is larger than the rest of the body; the eyes, too, are closed, and are larger than the other parts of the head. As the chicken grows, the white gradually passes to the middle of the egg, while the yellow is spread around it. On the twentieth day, if the egg is shaken, the voice of the now living animal can be heard in the shell. From this time it gradually becomes clothed with feathers; and its position is such that it has the head above the right foot, and the right wing above the head: the yolk in the meantime gradually disappears. All birds are born with the feet first, while with every other animal the contrary is the case. Some hens lay all their eggs with two yolks, and sometimes hatch twin chickens from the same egg, one being larger than the other, according to Cornelius Celsus: other writers, however, deny[21] the possibility of twin chickens being hatched. It is a rule never to give a brood hen more than twenty-five[22] eggs to sit upon at once. Hens begin to lay immediately after the winter solstice. The best broods are those which are hatched

[19] Cuvier says, that after an egg has been set upon for some days, the heart of the chicken may be seen like a small red speck, that palpitates; but that no such thing is to be seen before incubation.

[20] Cuvier remarks, that the chicken is not formed exclusively from the white, and that the yellow is gradually displaced by it, as the chicken increases in size.

[21] Cuvier tells us, that in the Memoirs of the Academy of St. Petersburgh, there is a memoir by Wolf, entitled *Ovum simplex gemelliferum*, in which these twin chickens are described with great exactness.

[22] More generally eleven or thirteen in this country.

before the vernal equinox: chickens that are hatched after the summer solstice, never attain their full growth, and the more so, the later they are produced.

CHAP. 75. (54.)—DEFECTS IN BROOD-HENS, AND THEIR REMEDIES.

Those eggs which have been laid within the last ten days, are the best for putting under the hen; old ones, or those which have just been laid, will be unfruitful; an uneven number[23] also ought to be placed. On the fourth day after the hen has begun to sit, if, upon taking an egg with one hand by the two ends and holding it up to the light, it is found to be clear and of one uniform colour, it is most likely to be barren, and another should be substituted in its place. There is also a way of testing them by means of water; an empty egg will float on the surface, while those that fall to the bottom, or, in other words, are full, should be placed under the hen. Care must be taken, however, not to make trial by shaking them, for if the organs which are necessary for life become confused, they will come to nothing.[24] Incubation ought to begin just after the new moon; for, if commenced before, the eggs will be unproductive. The chickens are hatched sooner if the weather is warm: hence it is that in summer they break the shell on the nineteenth day, but in winter on the twenty-fifth only. If it happens to thunder during the time of incubation, the eggs are addled, and if the cry of a hawk is heard they are spoilt. The best remedy against the effects of thunder, is to put an iron nail beneath the straw on which the eggs are laid, or else some earth from off a ploughshare. Some eggs, however, are hatched by the spontaneous action of Nature, without the process of incubation, as is the case in the dung-hills of Egypt. There is a well-known story related about a man at Syracuse, who was in the habit of covering eggs with earth,[25] and then continuing his drinking bout till they were hatched.

CHAP. 76. (55.)—AN AUGURY DERIVED FROM EGGS BY AN EMPRESS.

And, what is even more singular still, eggs can be hatched also by a human being. Julia Augusta, when pregnant in

[23] To secure their being more equably covered.

[24] Or rather, will produce chickens hideously deformed. This trick is sometimes practised among the country people against those to whom they owe a grudge.

[25] Aristotle says with a straw mat.

her early youth of Tiberius Cæsar, by Nero, was particularly desirous that her offspring should be a son, and accordingly employed the following mode of divination, which was then much in use among young women: she carried an egg in her bosom, taking care, whenever she was obliged to put it down, to give it to her nurse to warm in her own, that there might be no interruption in the heat: it is stated that the result promised by this mode of augury was not falsified.

It was perhaps from this circumstance, that the modern invention took its rise, of placing eggs in a warm spot and covering them with chaff, the heat being maintained by a moderate fire, while in the meantime a man is employed in turning them. By the adoption of this plan, the young, all of them, break the shell on a stated day. There is a story told of a breeder of poultry, of such remarkable skill, that on seeing an egg he could tell which hen had laid it. It is said also that when a hen has happened to die while sitting, the males have been seen to take her place in turns, and perform all the other duties of a brood-hen, taking care in the meantime to abstain from crowing. But the most remarkable thing of all, is the sight of a hen, beneath which ducks' eggs have been put and hatched.—At first, she is unable to quite recognize the brood as her own, while in her anxiety she gives utterance to her clucking as she doubtfully calls them; then at last she will stand at the margin of the pond, uttering her laments, while the ducklings, with Nature for their guide, are diving beneath the water.

CHAP. 77. (56.)—THE BEST KINDS OF FOWLS.

The breed of a fowl is judged of by the erectness of the crest, which is sometimes double, its black wings, reddish beak, and toes of unequal number, there being sometimes a fifth placed transversely above the other four. For the purposes of divination, those that have a yellow beak and feet are not considered pure; while for the secret rites of Bona Dea, black ones are chosen. There is also a dwarf[26] species of fowl, which is not barren either; a thing that is the case with no other kind of bird. These dwarfs, however, rarely lay at any stated periods, and their incubation is productive of injury[27] to the eggs.

[26] Similar, probably, to our bantam.

[27] In consequence, probably, of their smallness, and want of sufficient warmth.

CHAP. 78. (57.)—THE DISEASES OF FOWLS, AND THEIR REMEDIES.

The most dangerous malady with every kind of fowl is that known as the "pituita;"[28] which is prevalent more particularly between the times of harvest and vintage. The mode of treatment is to put them on a spare diet, and to expose them, while asleep, to the action of smoke, and more especially that of bay leaves or of the herb called savin. A feather also is inserted, and passed across through the nostrils, care being taken to move it every day; while their food consists of leeks mixed with speltmeal, or else is first soaked in water in which an owlet has been dipped, or boiled together with the seeds of the white vine. There are also some other receipts besides.

CHAP. 79. (58.)—WHEN BIRDS LAY, AND HOW MANY EGGS. THE VARIOUS KINDS OF HERONS.

Pigeons have the peculiarity of billing before they couple; they generally lay two eggs, Nature so willing it, that among birds the produce should be more frequent with some, and more numerous with others. The ring-dove and turtle-dove mostly lay three eggs, and never more than twice, in the spring; such being the case when the first brood has been lost. Although they may happen to lay three eggs, they never hatch more than two; the third egg, which is barren, is generally known by the name of "urinum."[29] The female ring-dove sits on the eggs from mid-day till morning, the male the rest of the time. Pigeons always produce a male and a female; the male first, the female the day after. Both the male and the female pigeon sit on the eggs; the male in the day-time, the female during the night. They hatch on the twentieth day of incubation, and lay the fifth day after coupling. Sometimes, indeed, in summer, these birds will rear three couples in two months; for then they hatch on the eighteenth day of incubation, and immediately conceive again; hence it is that eggs are often found among the young ones, some of which last are just taking wing, while others are only bursting the shell. The young ones, themselves, begin to produce at the age of five months. The females, if there should happen to be no male among them, will even tread each other, and lay

[28] The pip. [29] Meaning the "urine-egg."

barren eggs, from which nothing is produced. By the Greeks, these eggs are called "hypenemia."[30]

(59.) The pea-hen produces at three years old. In the first year she will lay one or two eggs, in the next four or five, and in the remaining years twelve, but never beyond that number. She lays for two or three days at intervals, and will produce three broods in the year, if care is taken to put the eggs under a common hen. The males are apt to break the eggs in getting at the females while sitting, and hence it is that the pea-hen lays by night, and in secret places, or else sits on her eggs in an elevated spot; the eggs will break, too, unless they are received upon some surface that is soft. One male is sufficient for every five females; when there are only one or two females to a male, all chance of their being prolific is spoilt through their extreme salaciousness. The young breaks the shell in twenty-seven days, or, at the very latest, on the thirtieth.

Geese pair in the water, and lay in spring; or, if they have paired in the winter, they lay about forty eggs, after the summer solstice. The hatching takes place twice in the year, if a hen hatches the first brood; otherwise, their greatest number of eggs will be sixteen, their lowest seven. If their eggs are taken away from them, they will keep on laying until they burst; they will not hatch the eggs of any other birds. The best number of eggs for placing under the goose for hatching, is nine, or else eleven. The females only sit, and that for thirty days; but if they are kept very warm, then only twenty-five. The contact of the nettle is fatal to their young, and their own greediness is no less so—sometimes, through over-eating, and sometimes through over-exertion; for seizing the root of a plant with the bill, they will make repeated efforts to tear it out of the ground, and so, at last, dislocate the neck. A remedy against the noxious effects of the nettle, is to place the root of that plant under the straw of their nest.

(60.) There are three kinds of herons, called, respectively, the leucon,[31] the asterias,[32] and the pellos.[33] These birds experience great pain in coupling; uttering loud cries, the males

[30] Or "wind" eggs. See cc. 75 and 80.
[31] The white heron.
[32] So called from its soaring towards the stars.
[33] The tawny or black heron.

bleed from the eyes, while the females lay their eggs with no less difficulty.

The eagle sits for thirty days, as do most of the larger birds; the smaller ones, the kite and the hawk for instance, only twenty. The eagle mostly lays but one egg, never more than three. The bird which is known as the "ægolios,"[34] lays four, and the raven sometimes five; they sit, too, the same number of days as the kite and the hawk. The male crow provides the female with food while she is sitting. The magpie lays nine eggs, the malancoryphus more than twenty, but always an uneven number, and no bird of this kind ever lays more; so much superior in fecundity are the smaller birds. The young ones of the swallow are blind at first, as is the case also with almost all the birds the progeny of which is numerous.

CHAP. 80.—WHAT EGGS ARE CALLED HYPENEMIA, AND WHAT CYNOSURA. HOW EGGS ARE BEST KEPT.

The barren eggs, which we have mentioned as "hypenemia," are either conceived by the females when they are influenced by libidinous fancies, and couple with one another, or else at the moment when they are rolling themselves in the dust; they are produced not only by the pigeon, but by the common hen as well, the partridge, the pea-hen, the goose, and the chenalopex; these eggs are barren, smaller than the others, of a less agreeable flavour, and more humid. There are some who think that they are generated by the wind, for which reason they give them the name of "zephyria." The eggs known as "urina," and which by some are called "cynosura,[35] are only laid in the spring, and at a time when the hen has discontinued sitting. Eggs, if soaked in vinegar, are rendered so soft thereby, that they may be twisted[36] round the finger like a ring. The best method of preserving them is to keep them packed in bean-meal, or chaff, during the winter, and in bran during the summer. It is a general belief, that if kept in salt, they will lose their contents.

[34] Possibly the night-hawk. Sillig says, that in the corresponding passage of Aristotle it is ἀετώλιος.

[35] "Dog's-urine." See the last Chapter.

[36] Hardouin asserts that this is the fact.

CHAP. 81. (61.)—THE ONLY WINGED ANIMAL THAT IS VIVIPAROUS, AND NURTURES ITS YOUNG WITH ITS MILK.

Among the winged animals, the only one that is viviparous is the bat; it is the only one, too, that has wings formed of a membrane. This is, also, the only winged creature that feeds its young with milk from the breast. The mother clasps her two young ones as she flies, and so carries them along with her. This animal, too, is said to have but one joint in the haunch, and to be particularly fond of gnats.

CHAP. 82. (62.)—TERRESTRIAL ANIMALS THAT ARE OVIPAROUS.—VARIOUS KINDS OF SERPENTS.

Again, among the terrestrial animals, there are the serpents that are oviparous; of which, as yet, we have not spoken. These creatures couple by clasping each other, and entwine so closely around one another, that they might be taken for only one animal with two heads. The male viper thrusts[37] its head into the mouth of the female, which gnaws it in the transports of its passion. This, too, is the only one among the terrestrial animals that lays eggs within its body—of one colour, and soft, like those of fishes. On the third day it hatches its young in the uterus, and then excludes them, one every day, and generally twenty in number; the last ones become so impatient of their confinement, that they force a passage through the sides of their parent, and so kill her. Other serpents, again, lay eggs attached to one another, and then bury them in the earth; the young being hatched in the following year. Crocodiles sit on their eggs in turns, first the male, and then the female. But let us now turn to the generation of the rest of the terrestrial animals.

CHAP. 83. (63.)—GENERATION OF ALL KINDS OF TERRESTRIAL ANIMALS.

The only one among the bipeds that is viviparous is man. Man is the only animal that repents of his first embraces; sad augury, indeed, of life, that its very origin should thus cause repentance! Other animals have stated times in the year for their embraces; but man, as we have already[38] observed, em-

[37] This is probably fabulous.

[38] B. vii. c. 4.

ploys for this purpose all hours both of day and night; other animals become sated with venereal pleasures, man hardly knows any satiety. Messalina,[39] the wife of Claudius Cæsar, thinking this a palm quite worthy of an empress, selected, for the purpose of deciding the question, one of the most notorious of the women who followed the profession of a hired prostitute; and the empress outdid her, after continuous intercourse, night and day, at the twenty-fifth embrace. In the human race also, the men have devised various substitutes for the more legitimate exercise of passion, all of which outrage Nature; while the females have recourse to abortion. How much more guilty than the brute beasts are we in this respect! Hesiod has stated that men are more lustful in winter, women in summer.

Coupling is performed back to back by the elephant, the camel, the tiger, the lynx, the rhinoceros, the lion, the dasypus, and the rabbit, the genital parts of all which animals lie far back. Camels even seek desert places, or, at all events, spots of a retired nature; and to come upon them on such an occasion is not unattended with danger. Coupling, with them, lasts a whole day; the only animal, indeed, of all those with solid hoofs, with which such is the case. Among the quadrupeds, it is the smell that excites the passions of the male. In this act, dogs also, seals, and wolves turn back to back, and remain attached, though greatly against their will. In the greater part of the animals above mentioned, the females solicit the males; in some, however, the males the females. As to bears, they lie down, like the human race, as previously[40] mentioned by us; while hedgehogs embrace standing upright. In cats, the male stands above, while the female assumes a crouching posture; foxes lie on the side, the female embracing the male. In the case of the cow and the hind, the female is unable to endure the violence of the male, consequently she keeps in motion during the time of coupling. The buck goes from one hind to another in turn, and then comes back to the first. Lizards couple entwined around each other, like the animals without feet.

All animals, the larger they are in bulk, are proportionably less prolific: the elephant, the camel, and the horse produce

[39] Justly called by Juvenal, "meretricem Augustam," Sat. vi. l. 118.
[40] B. viii. c. 54.

but one, while the acanthis,[41] a very small bird, produces twelve. Those animals, also, which are the most prolific, are the shortest time in breeding. The larger an animal is, the longer is the time required for its formation in the womb; those, also, which are the longest-lived, require the longest gestation; the growing age, too, is not suitable for the purposes of generation. Those animals which have solid hoofs bear but a single young one, while those which have cloven hoofs bear two. Those, again, whose feet are divided into toes, have a still more numerous offspring; but, while the others bring forth their young perfect, these last bear them in an unformed state, such, for instance, as the lioness and the she-bear. The fox also brings forth its young in an even more imperfect state than these; it is a very uncommon thing, however, to find it whelping. After the birth, these animals warm their young by licking them, and thereby give them their proper shape; they mostly produce four at a birth.

The dog, the wolf, the panther, and the jackal produce their young blind. There are several kinds of dogs; those of Laconia,[42] of both sexes, are ready for breeding in the eighth month, and the females carry their young sixty or sixty-three days at most; other dogs are fit for breeding when only six months old; the female, in all cases, becomes pregnant at the first congress. Those which have conceived before the proper age, bear pups which are longer blind, though not all the same number of days. It is thought that dogs, in general, lift the leg when they water at six months old; this, too, is looked upon as a sign that they have attained their full growth and strength; when doing this, the female squats. The most numerous litters known consist of twelve, but more generally five or six is the number; sometimes, indeed, only one is produced, but then it is looked upon as a prodigy, and the same is the case, too, when all the pups are of one sex. In the dog, the males come into the world first, but in other animals, the two sexes are born alternately. The female admits the male again six months after she has littered. Those of the Laconian breed bear eight young ones. It is a peculiarity in this kind, that after undergoing great labour, the males are remarkable for their salacity. In the Laconian breed the male lives ten

[41] Probably the goldfinch.

[42] A kind of large hound.

years, the female twelve; while other kinds, again, live fifteen years, and sometimes as much as twenty; but they are not fit for breeding to the end of their life, as they generally cease at about the twelfth year. The cat and the ichneumon are, in other respects,[43] like the dog; but they only live six years.

The dasypus[44] brings forth every month in the year, and is subject to superfœtation, like the hare. It conceives immediately after it has littered, even though it is still suckling its young, which are blind at their birth. The elephant, as we have already[45] stated, produces but one, and that the size of a calf three months old. The gestation of the camel lasts twelve months; the female conceives when three years old, and brings forth in the spring; at the end of a year from that time, she is ready to conceive again. It is thought advisable to have the mare covered so soon as three days, and indeed, sometimes, only one, after she has foaled; and, however unwilling she may be, means are taken to compel her. It is believed also, that it is by no means an uncommon thing for a woman to conceive on the seventh day after her delivery. It is recommended that the manes of mares should be cut, so as to humble their pride, in order to make them submit to be covered by the male ass; for when the mane is long, they are liable to be proud and vain. This is the only animal, the female of which, after covering, runs, facing the north or the south, according as she has conceived a male or a female. They change their colour immediately after, and the hair becomes of a redder hue, and deeper, whatever the colour may naturally be; it is this that indicates that they must no longer be covered, and they, themselves, will even resist it. Gestation does not, however, preclude some of them from being worked, and they are often with foal long before it is known. We read that the mare of Echecrates, the Thessalian, conquered at the Olympic games, while with foal.

Those who are more careful enquirers into these matters, tell us that in the horse, the dog, and the swine, the males are most ardent for sexual intercourse in the morning, while the female seeks the society of the male after mid-day. They say

[43] The number that they bear.

[44] See B. vii. c. 81.

[45] B. viii. c. 10, and in the present Chapter.

also, that mares in harness desire the horse sixty days sooner than those that live in herds; that it is swine only that foam at the mouth during the time of coupling; and that a boar, if it hears the voice of a sow in heat, will refuse to take its food, —to such a degree, indeed, as to starve itself, if it is not allowed to cover—while the female is reduced to such a state of frantic madness, as to attack and tear a man, more especially if wearing a white garment. This frenzy, however, is appeased by sprinkling vinegar on the sexual parts. It is supposed also that salacity is promoted by certain aliments; the herb rocket, for instance, in the case of man, and onions in that of cattle. Wild animals that have been tamed, do not conceive, the goose, for instance; the wild boar and the stag will only produce late in life, and even then they must have been taken and tamed when very young; a singular fact. The pregnant females, among the quadrupeds, refuse the male, with the exception, indeed, of the mare and the sow; superfœtation, however, takes place in none but the dasypus and the hare.

CHAP. 84. (64.)—THE POSITION OF ANIMALS IN THE UTERUS.

All those animals that are viviparous produce their young with the head first, the young animal about the time of yeaning turning itself round in the womb, where at other times it lies extended at full length. Quadrupeds during the time of gestation have the legs extended, and lying close to the belly; while, on the other hand, man is gathered up into a ball, with the nose between the knees. With reference to moles, of which we have previously[46] spoken, it is supposed that they are produced when a female has conceived, not by a male, but of herself only. Hence it is that there is no vitality in this false conception, because it does not proceed from the conjunction of the two sexes; and it has only that sort of vegetative existence in itself which we see in plants and trees.

(65.) Of all those which produce their young in a perfect state, the swine is the only one that bears them in considerable numbers as well; and, indeed, several times in the year—a thing that is contrary to the usual nature of animals with a solid or cloven hoof.

CHAP. 85.—ANIMALS WHOSE ORIGIN IS STILL UNKNOWN.

But it is mice that surpass all the other animals in fecundity;

[46] B. vii. c. 13.

and it is not without some hesitation that I speak of them, although I have Aristotle and some of the officers of Alexander the Great for my authority. It is said that these animals generate by licking one another, and not by copulation. They have related cases where a single female has given birth to one hundred and twenty young ones, and in Persia some were found, even pregnant themselves,[47] while yet in the womb of the parent. It is believed also that these animals will become pregnant on tasting salt. Hence we find that we have no longer any reason to wonder how such vast multitudes of field-mice devastate the standing corn; though it is still a mystery, with reference to them, in what way it is that such multitudes die so suddenly; for their dead bodies are never to be found, and there is not a person in existence that has ever dug up a mouse in a field during the winter. Multitudes of these animals visit Troas, and before this they have driven away the inhabitants in consequence of their vast numbers.

They multiply greatly during times of drought; it is said also that when they are about to die, a little worm grows in their head. The mice of Egypt have hard hairs, just like those of the hedge-hog. They walk on their hind feet, as also do those of the Alps. When two animals couple of different kinds, the union is only prolific if the time of gestation is the same in both. Among the oviparous quadrupeds, it is generally believed that the lizard brings forth by the mouth, though Aristotle denies the fact. These animals, too, do not sit upon their eggs, as they forget in what place they have laid them, being utterly destitute of memory; hence it is that the young ones are hatched spontaneously.

CHAP. 86. (66.)—SALAMANDERS.

We find it stated by many authors,[48] that a serpent is produced from the spinal marrow of a man. Many creatures, in fact, among the quadrupeds even, have a secret and mysterious origin.

(67) Thus, for instance, the salamander, an animal like a lizard in shape, and with a body starred all over, never comes out except during heavy showers, and disappears the moment

[47] Aristotle, Hist. Anim. B. vi. c. 37, does not quite say this. He says that the young ones looked "as if" they were pregnant, οἷον κύοντα.

[48] Ovid, Met. B. xv. l. 389, makes mention of this belief.

it becomes fine. This animal is so intensely cold as to extinguish fire by its contact, in the same way as ice does. It spits forth a milky matter from its mouth; and whatever part of the human body is touched with this, all the hair falls off, and the part assumes the appearance of leprosy.

CHAP. 87. (68.)—ANIMALS WHICH ARE BORN OF BEINGS THAT HAVE NOT BEEN BORN THEMSELVES—ANIMALS WHICH ARE BORN THEMSELVES BUT ARE NOT REPRODUCTIVE—ANIMALS WHICH ARE OF NEITHER SEX.

Some animals, again, are engendered of beings that are not engendered themselves, and have no such origin as those above mentioned, which are produced in the spring, or at some stated period of the year. Some of these are non-productive, the salamander, for instance, which is of no sex, either male or female; a distinction also, which does not exist in the eel and the other kinds that are neither viviparous nor oviparous. The oyster also, as well as the other shell-fish that adhere to the bottom of the sea or to rocks, are of neither sex. Again, as to those animals which are able to engender of themselves, if they are looked upon as divided into male and female, they do engender something, it is true, by coupling, but the produce is imperfect, quite dissimilar to the animal itself, and one from which nothing else is reproduced; this we find to be the case with flies, when they give birth to maggots. This fact is better illustrated by the nature of those animals which are known as insects; a subject, indeed, very difficult of explanation, and one which requires to be treated of in a Book[49] by itself. We will, therefore, proceed for the present with our remarks upon the instincts of the animals that have been previously mentioned.

CHAP. 88. (69.)—THE SENSES OF ANIMALS—THAT ALL HAVE THE SENSES OF TOUCH AND TASTE—THOSE WHICH ARE MORE REMARKABLE FOR THEIR SIGHT, SMELL, OR HEARING—MOLES—WHETHER OYSTERS HAVE THE SENSE OF HEARING.

Man excels more especially in his sense of touch, and next, in that of taste. In other respects, he is surpassed by many of the animals. Eagles can see more clearly than any other animals, while vultures have the better smell; moles hear more

[49] See the following Book.

distinctly than others, although buried in the earth, so dense and sluggish an element as it is; and what is even more, although every sound has a tendency upwards, they can hear the words that are spoken; and, it is said, they can even understand it if you talk about them, and will take to flight immediately. Among men, a person who has not enjoyed the sense of hearing in his infancy, is deprived of the powers of speech as well; and there are none deaf from their birth who are not dumb also. Among the marine animals, it is not probable that oysters enjoy the sense of hearing, but it is said that immediately a noise is made the solen[50] will sink to the bottom; it is for this reason, too, that silence is observed by persons while fishing at sea.

CHAP. 89. (70.)—WHICH FISHES HAVE THE BEST HEARING.

Fishes have neither organs of hearing, nor yet the exterior orifice. And yet, it is quite certain that they do hear; for it is a well-known fact, that in some fish-ponds they are in the habit of being assembled to be fed by the clapping of the hands. In the fish-ponds, too, that belong to the Emperor, the fish are in the habit of coming, each kind as it bears its name.[51] So too, it is said, the mullet, the wolf-fish, the salpa, and the chromis, have a very exquisite sense of hearing, and that it is for this reason that they frequent shallow water.

CHAP. 90.—WHICH FISHES HAVE THE FINEST SENSE OF SMELL.

It is quite manifest that fishes have the sense of smell also; for they are not all to be taken with the same bait, and are seen to smell at it before they seize it. Some, too, that are concealed in the bottom of holes, are driven out by the fisherman, by the aid of the smell of salted fish; with this he rubs the entrance of their retreat in the rock, immediately upon which they take to flight from the spot, just as though they had recognized the dead carcases of those of their kind. Then, again, they will rise to the surface at the smell of certain odours, such, for instance as roasted sæpia and polypus; and hence it is that these baits are placed in the osier kipes used for taking fish. They immediately take to flight upon smelling the bilge

[50] Known by us as the razor-sheath.

[51] Martial alludes to these fish-preserves, and the fish coming upon hearing their name, B. iv. Ep. 30, and B. x. Ep. 30.

water in a ship's hold, and more especially upon scenting the blood of fish.

The polypus cannot possibly be torn away from the rock to which it clings; but upon the herb cunila[51] being applied, the instant it smells it the fish quits its hold. Purples also are taken by means of fetid substances. And then, too, as to the other kinds of animals, who is there that can feel any doubt? Serpents are driven away by the smell of harts' horns, and more particularly by that of storax. Ants, too, are killed by the odours of origanum, lime, or sulphur. Gnats are attracted by acids, but not by anything sweet.

(71.) All animals have the sense of touch, those even which have no other sense; for even in the oyster, and, among land animals, in the worm, this sense is found.

CHAP. 91.—DIVERSITIES IN THE FEEDING OF ANIMALS.

I am strongly inclined to believe, too, that the sense of taste exists in all animals; for why else should one seek one kind of food, and another another? And it is in this more especially that is to be seen the wondrous power of Nature, the framer of all things. Some animals seize their prey with their teeth, others, again, with their claws; some tear it to pieces with their hooked beak; others, that have a broad bill, wabble in their food; others, with a sharp nib, work holes into it; others suck at their food; others, again, lick it, others sup it in, others chew it, and others bolt it whole. And no less a diversity is there in the uses they make of their feet, for the purpose of carrying, tearing asunder, holding, squeezing, suspending[52] their bodies, or incessantly scratching the ground.

CHAP. 92. (72.)—ANIMALS WHICH LIVE ON POISONS.

Roe-bucks and quails[53] grow fat on poisons, as we have already mentioned, being themselves the most harmless of animals. Serpents will feed on eggs, and the address displayed by the dragon is quite remarkable.—For it will either swallow the egg whole, if its jaws will allow of it, and roll over and over so as to break it within, and then by coughing eject the shells: or else, if it is too young to be able to do so, it will

[51] A species of origanum.

[52] As in the case of the galgulus, mentioned in c. 50.

[53] See c. 33 of the present Book, as to quails.

gradually encircle the egg with its coils, and hold it so tight as to break it at the end, just, in fact, as though a piece had been cut out with a knife; then holding the remaining part in its folds, it will suck the contents. In the same manner, too, when it has swallowed a bird whole, it will make a violent effort, and vomit the feathers.

CHAP. 93.—ANIMALS WHICH LIVE ON EARTH—ANIMALS WHICH WILL NOT DIE OF HUNGER OR THIRST.

Scorpions live on earth. Serpents, when an opportunity presents itself, show an especial liking for wine, although in other respects they need but very little drink. These animals, also, when kept shut up, require but little aliment, hardly any at all, in fact. The same is the case also with spiders, which at other times live by suction. Hence it is, that no venomous animal will die of hunger or thirst; it being the fact that they have neither heat, blood, nor sweat; all which humours, from their natural saltness, increase the animal's voracity. In this class of animals all those are the most deadly, which have eaten some of their own kind just before they inflict the wound. The sphingium and the satyr[54] stow away food in the pouches of their cheeks, after which they will take it out piece by piece with their hands and eat it; and thus they do for a day or an hour what the ant usually does[55] for the whole year.

(73.) The only animal with toes upon the feet that feeds upon grass is the hare, which will eat corn as well; while the solid-hoofed animals, and the swine among the cloven-footed ones, will eat all kinds of food, as well as roots. To roll over and over is a peculiarity of the animals with a solid hoof. All those which have serrated teeth are carnivorous. Bears live also upon corn, leaves, grapes, fruit, bees, crabs even, and ants; wolves, as we have already[54] stated, will eat earth even when they are famishing. Cattle grow fat by drinking; hence it is that salt agrees with them so well; the same is also the case with beasts of burden, although they live on corn as well as grass; but they eat just in proportion to what they drink. In addition to those already spoken of, among the wild animals, stags ruminate, when reared in a domesticated state. All animals ruminate lying in preference to standing,

[54] As to these monkies, see B. xviii. c. 30, and c. 80.
[55] *I. e.* lay by a store.
[54] B. viii. c. 34.

and more in winter than in summer, mostly for seven months in the year. The Pontic mouse[56] also ruminates in a similar manner.

CHAP. 94.—DIVERSITIES IN THE DRINKING OF ANIMALS.

In drinking, those animals which have serrated[57] teeth, lap; and common mice do the same, although they belong to another class. Those which have the teeth continuous, horses and oxen, for instance, sup; bears do neither the one nor the other, but seem to bite at the water, and so devour it. In Africa, the greater part of the wild beasts do not drink in summer, through the want of rain; for which reason it is that the mice of Libya, when caught, will die if they drink. The ever-thirsting plains of Africa produce the oryx,[58] an animal which, in consequence of the nature of its native locality, never drinks, and which, in a remarkable manner, affords a remedy against drought: for the Gætulian bandits by its aid fortify themselves against thirst, by finding in its body certain vesicles filled with a most wholesome liquid. In this same Africa, also, the pards conceal themselves in the thick foliage of the trees, and then spring down from the branches on any creature that may happen to be passing by, thus occupying what are ordinarily the haunts of the birds. Cats too, with what silent stealthiness, with what light steps do they creep towards a bird! How slily they will sit and watch, and then dart out upon a mouse! These animals scratch up the earth and bury their ordure, being well aware that the smell of it would betray their presence.

CHAP. 95. (74.)—ANTIPATHIES OF ANIMALS. PROOFS THAT THEY ARE SENSIBLE OF FRIENDSHIP AND OTHER AFFECTIONS.

Hence there will be no difficulty in perceiving that animals are possessed of other instincts besides those previously mentioned. In fact, there are certain antipathies and sympathies among them, which give rise to various affections besides those which we have mentioned in relation to each species in its appropriate place. The swan and the eagle are always at

[56] Probably the ermine. See B. viii. c. 55.

[57] Pliny alludes to dogs, cats, and similar mammifera, as having *serrated* teeth; the term, however, is quite inappropriate.

[58] See B. viii. c. 79.

variance, and the raven and the chloreus[59] seek each other's eggs by night. In a similar manner, also, the raven and the kite are perpetually at war with one another, the one carrying off the other's food. So, too, there are antipathies between the crow and the owl, the eagle and the trochilus;[60]—between the last two, if we are to believe the story, because the latter has received the title of the "king of the birds:" the same, again, with the owlet and all the smaller birds.

Again, in relation to the terrestrial animals, the weasel is at enmity with the crow, the turtle-dove with the pyrallis,[61] the ichneumon with the wasp, and the phalangium with other spiders. Among aquatic animals, there is enmity between the duck and the sea-mew, the falcon known as the "harpe," and the hawk called the "triorchis." In a similar manner, too, the shrew-mouse and the heron are ever on the watch for each other's young; and the ægithus,[62] so small a bird as it is, has an antipathy to the ass; for the latter, when scratching itself, rubs its body against the brambles, and so crushes the bird's nest; a thing of which it stands in such dread, that if it only hears the voice of the ass when it brays, it will throw its eggs out of the nest, and the young ones themselves will sometimes fall to the ground in their fright; hence it is that it will fly at the ass, and peck at its sores with its beak. The fox, too, is at war with the nisus,[63] and serpents with weasels and swine. Æsalon[64] is the name given to a small bird that breaks the eggs of the raven, and the young of which are anxiously sought by the fox; while in its turn it will peck at the young of the fox, and even the parent itself. As soon as the ravens espy this, they come to its assistance, as though against a common enemy. The acanthis, too, lives among the brambles; hence it is that it also has an antipathy to the ass, because it devours the bramble blossoms. The ægithus and the anthus,[65] too, are at such mortal enmity with each other, that it is the common belief that their blood will not mingle; and it is for this reason that they have the bad repute of being employed in many magi-

[59] Probably the chlorion of c. 45.

[60] Supposed to be the golden-crested wren.

[61] An insect. See B. xi. c. 42, if, indeed, this is the same that is there mentioned, which is somewhat doubtful.

[62] It is not known what bird is meant: perhaps the titmouse.

[63] A kind of hawk or falcon.

[64] Species unknown.

[65] Probably the spring wag-tail.

cal incantations. The thos and the lion are at war with each other; and, indeed, the smallest objects and the greatest just as much. Caterpillars will avoid a tree that is infested with ants. The spider, poised in its web, will throw itself on the head of a serpent as it lies stretched beneath the shade of the tree where it has built, and with its bite pierce its brain; such is the shock, that the creature will hiss from time to time, and then, seized with vertigo, coil round and round, while it finds itself unable to take to flight, or so much as to break the web of the spider, as it hangs suspended above; this scene only ends with its death.

CHAP. 96.—INSTANCES OF AFFECTION SHOWN BY SERPENTS.

On the other hand, there is a strict friendship existing between the peacock and the pigeon, the turtle-dove and the parrot, the blackbird and the turtle, the crow and the heron, all of which join in a common enmity against the fox. The harpe also, and the kite, unite against the triorchis.

And then, besides, have we not seen instances of affection in the serpent even, that most ferocious of all animals? We have already[66] related the story that is told of a man in Arcadia, who was saved by a dragon which had belonged to him, and of his voice being recognized by the animal. We must also make mention here of another marvellous story that is related by Phylarchus about the asp. He tells us, that in Egypt, one of these animals, after having received its daily nourishment at the table of a certain person, brought forth, and that it so happened that the son of its entertainer was killed by one of its young ones; upon which, returning to its food as usual, and becoming sensible of the crime, it immediately killed the young one, and returned to the house no more.

CHAP. 97. (75.)—THE SLEEP OF ANIMALS.

The question as to their sleep, is one that is by no means difficult to solve. In the land animals, it is quite evident that all that have eyelids sleep. With reference to aquatic animals, it is admitted that they also sleep, though only for short periods, even by those writers who entertain doubts as to the other animals; and they come to this conclusion, not from any appearance of the eyes, for they have no eyelids, indeed, to close,

[66] In B. viii. c. 22.

but because they are to be seen buried in deep repose, and to all appearance fast asleep, betraying no motion in any part of the body except the tail, and by starting when they happen to hear a noise. With regard to the thunny, it is stated with still greater confidence that it sleeps; indeed, it is often found in that state near the shore, or among the rocks. Flat fish are also found fast asleep in shallow water, and are often taken in that state with the hand: and, as to the dolphin and the balæna, they are even heard to snore.

It is quite evident, also, that insects sleep, from the silent stillness which they preserve; and even if a light is put close to them, they will not be awoke thereby.

CHAP. 98.—WHAT ANIMALS ARE SUBJECT TO DREAMS.

Man, just after his birth, is hard pressed by sleep for several months, after which he becomes more and more wakeful, day by day. The infant dreams[67] from the very first, for it will suddenly awake with every symptom of alarm, and while asleep will imitate the action of sucking. There are some persons, however, who never dream; indeed, we find instances stated where it has been a fatal sign for a person to dream, who has never done so before. Here we find ourselves invited by a grand field of investigation, and one that is full of alleged proofs on both sides of the question, whether, when the mind is at rest in sleep, it has any foreknowledge of the future, and if so, by what process this is brought about, or whether this is not altogether a matter quite fortuitous, as most other things are? If we were to attempt to decide the question by instances quoted, we should find as many on the one side as on the other.

It is pretty generally agreed, that dreams, immediately after we have taken wine and food, or when we have just fallen asleep again after waking, have no signification whatever. Indeed, sleep is nothing else than the retiring[68] of the mind into itself. It is quite evident that, besides man, horses, dogs, oxen, sheep, and goats have dreams; consequently, the same is supposed to be the case with all animals that are viviparous. As to those which are oviparous, it is a matter of uncertainty,

[67] Aristotle, Hist. Anim. B. iv. c. 10, maintains the contrary. But in B. vii. he asserts that infants do dream.

[68] See Lucretius, B. iv. l. 914, *et seq.*

though it is equally certain that they do sleep. But we must now pass on to a description of the insects.

SUMMARY.—Remarkable facts, narratives, and observations, seven hundred and ninety-three.

ROMAN AUTHORS QUOTED.—Manilius,[69] Cornelius Valerianus,[70] the Acta Triumphorum,[71] Umbricius Melior,[72] Massurius Sabinus,[73] Antistius Labeo,[74] Trogus,[75] Cremutius,[76] M. Varro,[77] Macer Æmilius,[78] Melissus,[79] Mucianus,[80] Nepos,[81] Fabius Pictor,[82] T. Lucretius,[83] Cornelius Celsus,[84] Horace,[85] Deculo,[86] Hyginus,[87] the Sasernæ,[88] Nigidius,[89] Mamilius Sura.[90]

FOREIGN AUTHORS QUOTED.—Homer, Phemonoë,[91] Phile-

[69] M. Manilius, mentioned in c. 2. Nothing certain is known of him, but by some he is supposed to have been the senator and jurisconsult of that name, contemporary with the younger Scipio. The astronomical poem which goes under his name was probably written at a much later period.

[70] See end of B. iii.

[71] See end of B. v.

[72] A famous soothsayer, who predicted to Galba, as we learn from Tacitus, the dangers to which he was about to be exposed. He wrote on the science of Divination, as practised by the Etruscans.

[73] See end of B. vii.

[74] A Roman legislator, proconsul of Gallia Narbonensis, and long a favourite of Augustus. According to Aulus Gellius, his works were very numerous. He also wrote a treatise on the Etruscan divination.

[75] Trogus Pompeius. See end of B. vii.

[76] See end of B. vii.

[77] See end of B. ii.

[78] See end of B. ix.

[79] See end of B. vii.

[80] See end of B. ii.

[81] See end of B. ii.

[82] He was the most ancient writer of Roman history in prose. His history, which was written in Greek, is supposed to have commenced with the arrival of Æneas in Italy, and to have come down to his own time. He was sent by the Romans to consult the oracle at Delphi, after the battle of Cannæ.

[83] The famous poet and writer on the Epicurean philosophy. He was born B.C. 98, and slew himself B.C. 54.

[84] See end of B. vii.

[85] Q. Horatius Flaccus, one of the greatest Roman poets.

[86] Nothing is known of this writer; indeed, the correct reading is a matter of doubt.

[87] See end of B. iii.

[88] Father and son, who wrote treatises on agriculture, as we learn from Columella.

[89] See end of B. vi.

[90] A writer on agriculture, mentioned by Columella.

[91] A priestess of Delphi, said to have been the inventor of hexameter verse. Servius identifies her with the Cumæan Sibyl. Pliny quotes from her in c. 8, probably from some work on augury attributed to her. A work in MS. entitled "Orneosophium," or "Wisdom of Birds," is attributed to Phemonoë. She is said to have been the first to pronounce the celebrated Γνῶθι σεαυτὸν, commonly attributed to Thales.

mon,[92] Bœus[93] who wrote the Ornithogonia, Hylas[94] who wrote an augury, Aristotle,[95] Theophrastus,[96] Callimachus,[97] Æschylus,[98] King Hiero,[99] King Philometor,[1] Archytas[2] of Tarentum, Amphilochus[3] of Athens, Anaxipolis[4] of Thasos, Apollodorus[5] of Lemnos, Aristophanes[6] of Miletus, Antigonus[7] of Cymæ, Agathocles[8] of Chios, Apollonius[9] of Pergâmus, Aristander[10] of Athens, Bacchius[11] of Miletus, Bion[12] of Soli, Chæreas[13] of Athens, Diodorus[14] of Priene, Dion[15] of Colophon, Democritus,[16] Diophanes[17] of Nicæa, Epigenes[18] of Rhodes, Euagon[19] of Thasos, Euphronius[20] of Athens, Juba,[21] Androtion[22] who wrote on Agriculture, Æschrion[23] who wrote on Agriculture, Lysimachus[24] who wrote on Agriculture, Dionysius[25] who translated Mago, Diophanes[26] who made an Epitome of Dionysius, Nicander,[27] Onesicritus,[28] Phylarchus,[29] Hesiod.[30]

[92] An Athenian comic poet of the New Comedy, born either at Soli in Cilicia, or at Syracuse. Plautus has imitated several of his plays.

[93] Nothing is known of this writer, who wrote a poem on ornithology, as here stated. Athenæus is doubtful whether the writer was a poet, Bœus, or a poetess, Bœo.

[94] Nothing is known of this writer.

[95] See end of B. ii.

[96] See end of B. iii.

[97] See end of B. iv.

[98] The Greek tragic poet of Athens, several of whose plays still exist.

[99] See end of B. viii.

[1] King Attalus III. See end of B. viii.

[2] See end of B. viii.

[3] See end of B. viii.

[4] See end of B. viii.

[5] See end of B. viii.

[6] See end of B. viii.

[7] See end of B. viii.

[8] See end of B. viii.

[9] See end of B. viii.

[10] See end of B. viii.

[11] See end of B. viii.

[12] See end of B. vi.

[13] See end of B. viii.

[14] See end of B. viii.

[15] See end of B. viii.

[16] See end of B. ii.

[17] See end of B. viii.

[18] See end of B. ii.

[19] Of this writer nothing whatever seems to be known.

[20] See end of B. viii.

[21] See end of B. v.

[22] See end of B. viii.

[23] See end of B. viii.

[24] See end of B. viii.

[25] Cassius Dionysius of Utica, flourished B.C. 40. He condensed the twenty-eight books of Mago into twenty, and dedicated them to the Roman prætor Sextilius.

[26] See end of B. viii.

[27] See end of B. viii.

[28] See end of B. ii.

[29] See end of B. vii.

[30] See end of B. vii.

END OF VOL. II.

ERRATA IN VOL. I.

Page vii. line 31, *for* Coisicius, *read* Cossicius.
„ xvii. „ 15, *for* pepole, *read* people.
„ xviii. „ 30, *for* Fabulosetas, *read* Fabulositas.
„ 378, „ 20, *for* Goat-Pens, *read* Goat-Pans.

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